PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Consolidated Grain and Barge Company
Bluff Road
Mount Vernon, Indiana 47620

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: 129-10111-00035	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: Expiration Date:

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a soybean oil extraction plant.

Responsible Official:	Melvin L. Spaulding
Source Address:	Bluff Road, Mt. Vernon, Indiana, 47620
Mailing Address:	P.O. Box 548, Mt. Vernon, Indiana, 47620-0548
SIC Code:	2075
County Location:	Posey
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) truck only soybean north receiving area (P24) with a maximum throughput capacity of 360 tons per hour consisting of:

(1) One (1) truck only receiving pit that controls PM emissions with one (1) baghouse (C24) that exhausts to Stack 24;

(b) One (1) north house bin loading area (P27) with a maximum throughput capacity of 360 tons per hour loading consisting of:

(1) One (1) totally enclosed aspirated elevator leg that transfers soybeans to enclosed conveyors at a maximum rate of 720,000 pounds per hour;

(2) Three (3) enclosed conveyors that transfer the soybean from the north receiving area to the soybean storage areas at a combined maximum rate of 720,000 pounds per hour;

(c) One (1) north storage/loadout area (P25) with a maximum throughput capacity of 360 tons per hour loading/unloading consisting of:

(1) Two (2) steel storage tanks with a maximum capacity of 21,000 tons (700,000 bushels), each, that utilize oil application to control PM emissions;

(2) Two (2) enclosed conveyors that transfer the soybean from the storage area to the loadout bin at a combined maximum rate of 720,000 pounds per hour;

(d) One (1) soybean expander system (P23) with a maximum capacity of 50 tons per hour consisting of:

(1) One (1) expander, forming soybean collets, with a maximum capacity of 50 tons per hour;

(2) One (1) soybean collet cooler with a maximum capacity of 50 tons per hour that controls PM emissions with one (1) cyclone (C23) that exhausts to Stack 23;

(3) Two (2) totally enclosed conveyors that transfer soybean fines from the hull aspirator to an enclosed expander conveyor at a maximum rate of 50 tons per hour;

(4) Two (2) totally enclosed expander conveyors that transfer soybean flakes and fines to the expander at a maximum rate of 50 tons per hour;

(5) One (1) totally enclosed conveyor that transfers soybean collets from the expander to the cooler at a maximum rate of 50 tons per hour;

(6) One (1) totally enclosed conveyor that transfers soybean collets from the cooler to the enclosed flake conveyor at a maximum rate of 50 tons per hour.

(e) One (1) truck only soybean receiving area (P1) with a maximum throughput capacity of 600 tons per hour consisting of:

(1) One (1) truck only receiving pit that controls PM emissions with one (1) baghouse (C1) that exhausts to Stack 1,

(2) One (1) totally enclosed belt conveyor system (or equivalent) that utilizes an oil application to control PM emissions,

(3) One (1) aspirated soybean receiving leg that utilizes an oil application and one (1) baghouse (C1) that exhausts to Stack 1 to control PM emissions,

(4) One (1) drag conveyor that transfers the soybean from the receiving leg to the soybean covered belt conveyor, and

(5) One (1) covered belt conveyor that loads the soybean storage silos;

(f) One (1) truck and rail soybean and hull receiving area (P2) with a maximum throughput capacity of 540 tons per hour consisting of:

(1) Two (2) H.B. truck and rail receiving pits that control PM emissions by restricting vehicles unloading grain at these stations to hopper-bottom rail cars and trucks with choke unloading applications,

(2) One (1) enclosed drag conveyor system (or equivalent) that utilizes an oil application to control PM emissions,

(3) Two (2) aspirated soybean and hull receiving legs that utilize an oil application and one (1) baghouse (C1) that exhausts to Stack 1 to control PM emissions,

(4) One (1) enclosed drag conveyor that transfers the soybean at a maximum rate of 540 tons per hour from the receiving leg to the soybean covered belt conveyor that loads the soybean silos and the hull at a maximum rate of 170 tons per hour from the receiving leg to the hull covered belt conveyor that loads the hull silos;

(g) One (1) barge soybean receiving area (P16) with a maximum throughput capacity of 540 tons per hour consisting of:

(1) One (1) clamshell crane or bucket unloading to one (1) aspirated hopper unloading to one (1) enclosed belt/mass flow conveyor that controls PM emissions with one (1) baghouse (C16) that exhausts to Stack 16,

(2) One (1) enclosed conveyor system that utilizes an oil application to control PM emissions,

(3) One (1) enclosed bucket elevator, and

(4) One (1) enclosed belt/mass flow conveyor that discharges to the truck and rail receiving scale;

(h) Twelve (12) concrete soybean silos, with a maximum storage capacity of 2,191.6 tons (73,053 bushels) each, that utilize an oil application to control PM emissions;

(i) Four (4) concrete soybean storage silos with a maximum capacity of 19,375 bushels each, that utilize an oil application to control PM emissions;

(j) Two (2) concrete soybean storage silos, with a maximum capacity of 18,801 bushels each, that utilize an oil application to control PM emissions;

(k) One (1) flow coating material kaolin receiving bin that controls PM emissions with one (1) baghouse (C3) that exhausts to Stack 3;

(l) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor at a maximum rate of 0.417 tons per hour;

(m) Three (3) totally enclosed drag conveyors (or equivalent) comprising two conveyance systems located below the storage silos that transfer the soybeans from the silos to the elevator legs at a maximum rate of 115 tons per hour per system. Only one system operates at any given time and the systems utilize an oil application to control PM emissions;

(n) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner at a maximum rate of 115 tons per hour each, and utilize an oil application to control PM emissions;

(o) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet at a maximum rate of 115 tons per hour;

(p) One (1) magnet, with a maximum capacity of 115 tons per hour, that utilizes both an oil application and one (1) baghouse (C4) that exhausts to Stack 4 to control PM emissions;

(q) One (1) cleaning system with a maximum capacity of 115 tons per hour, consisting of one (1) cleaner, two (2) aspirators, two (2) hoppers, and one (1) scale, that utilize both an oil application and one (1) baghouse (C4) that exhausts to Stack 4 to control PM emissions and one (1) aspirator and one (1) breaker that utilize one (1) cyclone (C5E) that exhaust to Stack 5 to control PM;

(r) One (1) soybean heater, with a maximum capacity of 115 tons per hour, that exhausts to Stack 21;

(s) One (1) L-Path totally enclosed drag conveyor (or equivalent) that transfers the cleaned soybeans at a maximum rate of 115 tons per hour;

(t) One (1) enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers soybeans to the jet dryers at a maximum rate of 115 tons per hour;

(u) Three (3) jet dryers, with a maximum capacity of 42 tons per hour each, that controls PM emissions with three (3) cyclones (C5A, C5B, and C5F) that exhaust to Stack 5;

(v) Three (3) primary CCD dryers, with a combined maximum capacity of 115 tons per hour, that controls PM emissions with two (2) cyclones (C5C and C5G) that exhaust to Stack 5;

(w) Three (3) secondary CCC coolers, with a combined maximum capacity of 115 tons per hour, that controls PM emissions with two (2) cyclones (C5D and C5H) that exhaust to Stack 5;

(x) Six (6) cracking and dehulling rolls, with a combined maximum capacity of 115 tons per hour, that transfer the hulls through four (4) cyclones (C5C, C5D, C5G, and C5H) to an enclosed conveyor;

(y) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system at a maximum rate of 8.05 tons per hour;

(z) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator at a maximum rate of 8.05 tons per hour;

(aa) One (1) hull screener and aspirator, with a maximum capacity of 8.05 tons per hour, that controls PM emissions with one (1) cyclone (C5E) that exhausts to Stack 5;

(bb) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls from the hull screener to the hull grinders at a maximum rate of 8.05 tons per hour;

(cc) Two (2) hull grinders, with a maximum system capacity of 8.05 tons per hour, that transfers the ground hulls to one (1) baghouse (C6) that exhausts to Stack 6;

(dd) Hull storage bins, with a maximum capacity of 39,000 cubic feet, that controls PM emissions with one (1) baghouse (C7) that exhausts to Stack 7;

(ee) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls to the hull hopper at a maximum rate of 15 tons per hour;

(ff) One (1) hull hopper that feeds to the pellet mill at a maximum rate of 15 tons per hour that controls PM emissions with one (1) baghouse (C7A) that exhausts to Stack 7A;

(gg) One (1) hull pellet mill with a maximum capacity of 15 tons per hour;

(hh) One (1) hull pellet cooler, with a maximum capacity of 15 tons per hour, that controls PM emissions with one (1) cyclone (C8) that exhausts to Stack 8;

(ii) Pellet storage bins with a maximum capacity of 70,000 cubic feet, that controls PM emissions with one (1) baghouse (C8A) that exhausts to Stack 8A;

(jj) One (1) totally enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper

that transfers beans from cracking and dehulling to the flakers at a maximum rate of 104.9 tons per hour;

(kk) Nine (9) flakers, with a combined maximum capacity of 104.9 tons per hour, that controls PM emissions with three (3) baghouses (C19A, C19B, and C19C) that exhaust to Stack 19;

(ll) Two (2) totally enclosed drag conveyors (or equivalent) in series that transfer soybean flakes and collets from the flakers and the expander system to the feed screw conveyor at a maximum rate of 104.9 tons per hour;

(mm) One (1) feed screw conveyor that transfers soybean flakes and collets to the extractor at a maximum rate of 104.9 tons per hour;

(nn) One (1) soybean oil extractor, with a maximum capacity of 104.9 tons of soybean flakes and collets per hour and 104.9 tons of hexane per hour, that controls hexane (VOC) emissions with one (1) mineral oil absorber system (C13) that exhausts to Stack 13;

(oo) One (1) desolventizer unit, with a maximum capacity of 86.8 tons of spent soybean flakes and collets per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhausts to Stack 13;

(pp) A set of evaporators, with a maximum capacity of 20.7 tons of soybean oil per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhaust to Stack 13;

(qq) A set of condensers and water separator to separate hexane and water, with a maximum capacity of 20.7 tons of soybean oil per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhaust to Stack 13;

(rr) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a maximum rate of 86.8 tons per hour and 34.5 tons per hour, respectively;

(ss) One (1) DTDC meal dryer section 1, with a maximum drying capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) cyclone (C10) that exhausts to Stack 10;

(tt) One (1) DTDC meal dryer section 2, with a maximum drying capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) cyclone (C11) that exhausts to Stack 11;

(uu) One (1) DTDC meal cooler section, with a maximum cooling capacity of 83.4 tons of meal per hour, that transfers the meal to one (1) cyclone (C12) to Stack 12;

(vv) One (1) DTDC enclosed screw conveyor (or equivalent) that transfers meal from the DTDC meal cooler and three (3) DTDC cyclones (C10, C11, and C12) to the meal surge bin conveyor at a maximum capacity of 83.4 tons per hour;

(ww) One (1) totally enclosed surge bin conveyor that transfers the meal to the surge bins at a maximum rate of 83.4 tons per hour;

(xx) Two (2) meal surge bins, with a maximum storage capacity of 19,500 cubic feet, that feed to the screeners or the recycle leg that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(yy) One (1) elevator leg that transfers the meal to the sizing process at a maximum rate of 83.4 tons per hour;

(zz) Five (5) meal screeners, with a maximum capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(aaa) One (1) meal screening hopper that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(bbb) Two (2) meal grinders, with a combined maximum capacity of 83.4 tons per year, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ccc) Two (2) meal grinding hoppers and two (2) aspirators that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ddd) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the grinding hoppers to the meal mixing screw conveyor at a maximum rate of 83.4 tons per hour;

(eee) One (1) enclosed meal mixing screw conveyor (or equivalent) that transfers meal to the mixed meal elevator leg at a maximum rate of 83.8 tons per hour;

(fff) One (1) mixed meal elevator leg, with a maximum capacity of 83.8 tons per hour, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ggg) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the mixed meal elevator leg to the meal storage tanks, load out bins and bulk weigh system at a maximum rate of 83.8 tons per hour;

(hhh) Meal storage tanks (capacity 292,000 cubic feet) and loadout bins (capacity 58,000 cubic feet), with a combined maximum storage capacity of 350,000 cubic feet, that controls PM emissions with one (1) baghouse (C20) that exhausts to Stack 20;

(iii) One (1) totally enclosed drag conveyor (or equivalent) that transfers soybean meal from the meal storage tanks to the meal elevator leg at a maximum rate of 300 tons per hour;

(jjj) One (1) meal elevator leg that operates at a maximum capacity of 300 tons per hour and controls PM emissions with one (1) baghouse (C20) that exhausts to Stack 20;

(kkk) One (1) truck loadout scalper with a totally enclosed ball breaker that operates at a maximum capacity of 383.3 tons per hour;

(lll) Two (2) totally enclosed drag conveyors (or equivalent) that transfer meal from the meal loadout bins to the truck at a maximum rate of 383.3 tons per hour each;

(mmm) One (1) truck loadout chute that operates at a maximum capacity of 383.3 tons per hour and controls PM emissions with one (1) baghouse (C14) that exhausts to Stack 14;

(nnn) One (1) rail and barge loadout scalper with a totally enclosed ball breaker that operates at a maximum capacity of 383.3 tons per hour;

(ooo) One (1) rail and barge bulk weigh system consisting of one (1) upper garner, one (1) weigh hopper, and one (1) lower surge that operates at a maximum capacity of 383.3 tons per hour;

(ppp) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the lower surge to rail or barge loadout at a maximum rate of 383.3 tons per hour;

(qqq) Two (2) rail loadout systems that operates at a maximum total capacity of 383.3 tons per hour, based on only one system operating at a time, and control PM emissions with one (1) baghouse (C15) that exhausts to Stack 15;

(rrr) One (1) enclosed conveyor that transfers soybean meal from the lower surge to the barge loadout system at a maximum rate of 383.3 tons;

(sss) One (1) barge loadout system that operates at a maximum capacity of 383.3 tons per hour and controls PM emissions with one (1) baghouse (C15) that exhausts to Stack 15;

(ttt) Three (3) 33.7 million (MM)Btu per hour natural gas fired boilers that exhaust to Stacks 17, 18, and 18A;

(uuu) Two (2) fixed roof hexane storage tanks with a maximum storage capacity of 14,000 gallons each;

(vvv) One (1) fixed roof hexane work tank with a maximum storage capacity of 8,000 gallons;

(www) Four (4) fixed roof soybean oil storage tanks with a maximum storage capacity of 932 cubic meters each;

(xxx) Three (3) fixed roof soybean oil storage day tanks with a maximum storage capacity of 114 cubic meters each; and

(yyy) One (1) fixed roof dust suppression soybean/mineral oil storage tank with a maximum storage capacity of 1,000 gallons.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22).

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)]

This permit is issued for a fixed term of five (5) years from the original date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.3 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)] [326 IAC 2-7-6(6)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the U. S. EPA along with a claim of confidentiality. [326 IAC 2-7-5(6)(E)]

(c) The Permittee may include a claim of confidentiality in accordance with 326 IAC 17. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit, except those specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act and is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in condition B, Emergency Provisions.

B.9 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.10 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document

is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.11 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

B.12 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits. All previously issued operating permits are superseded by this permit.

(c) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(d) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(e) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(f) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(g) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(h) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(7)]

B.14 Multiple Exceedances [326 IAC 2-7-5(1)(E)]

Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report.

The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

(c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-4]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this

source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(2) If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1)(D)(i) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-7-20(b), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

B.21 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by 326 IAC 2 and 326 IAC 2-7-10.5.

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy any records that must be kept under the conditions of this permit;

(c) Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4(d)(3), (e), and (f), and 326 IAC 1-7-5(d) are not federally enforceable.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is

at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.12 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.14 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(c) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.16 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall submit:

(a) A compliance schedule for meeting the requirements of 40 CFR 68; or

(b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP).

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.17 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Reasonable response steps that may be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps may constitute a violation of the permit.

(c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within “normal” parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.

(f) At its discretion, IDEM may excuse the Permittee’s failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.

C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.19 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate estimated actual emissions of other regulated pollutants (as defined by 326 IAC 2-7-1) from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

C.20 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.21 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period.

The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.22 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) One (1) truck only soybean north receiving area (P24) with a maximum throughput capacity of 360 tons per hour consisting of:

(1) One (1) truck only receiving pit that controls PM emissions with one (1) baghouse (C24) that exhausts to Stack 24;

(b) One (1) north house bin loading area (P27) with a maximum throughput capacity of 360 tons per hour loading consisting of:

(1) One (1) totally enclosed aspirated elevator leg that transfers soybeans to enclosed conveyors at a maximum rate of 720,000 pounds per hour;

(2) Three (3) enclosed conveyors that transfer the soybean from the north receiving area to the soybean storage areas at a combined maximum rate of 720,000 pounds per hour;

(c) One (1) north storage/loadout area (P25) with a maximum throughput capacity of 360 tons per hour loading/unloading consisting of:

(1) Two (2) steel storage tanks with a maximum capacity of 21,000 tons (700,000 bushels), each, that utilize oil application to control PM emissions;

(2) Two (2) enclosed conveyors that transfer the soybean from the storage area to the loadout bin at a combined maximum rate of 720,000 pounds per hour;

(d) One (1) soybean expander system (P23) with a maximum capacity of 50 tons per hour consisting of:

(1) One (1) expander, forming soybean collets, with a maximum capacity of 50 tons per hour;

(2) One (1) soybean collet cooler with a maximum capacity of 50 tons per hour that controls PM emissions with one (1) cyclone (C23) that exhausts to Stack 23;

(3) Two (2) totally enclosed conveyors that transfer soybean fines from the hull aspirator to an enclosed expander conveyor at a maximum rate of 50 tons per hour;

(4) Two (2) totally enclosed expander conveyors that transfer soybean flakes and fines to the expander at a maximum rate of 50 tons per hour;

(5) One (1) totally enclosed conveyor that transfers soybean collets from the expander to the cooler at a maximum rate of 50 tons per hour;

(6) One (1) totally enclosed conveyor that transfers soybean collets from the cooler to the enclosed flake conveyor at a maximum rate of 50 tons per hour.

SECTION D.1 (cont.)

(e) One (1) truck only soybean receiving area (P1) with a maximum throughput capacity of 600 tons per hour consisting of:

(1) One (1) truck only receiving pit that controls PM emissions with one (1) baghouse (C1) that exhausts to Stack 1,

(2) One (1) totally enclosed belt conveyor system (or equivalent) that utilizes an oil application to control PM emissions,

(3) One (1) aspirated soybean receiving leg that utilizes an oil application and one (1) baghouse (C1) that exhausts to Stack 1 to control PM emissions,

(4) One (1) drag conveyor that transfers the soybean from the receiving leg to the soybean covered belt conveyor, and

(5) One (1) covered belt conveyor that loads the soybean storage silos;

(f) One (1) truck and rail soybean and hull receiving area (P2) with a maximum throughput capacity of 540 tons per hour consisting of:

(1) Two (2) H.B. truck and rail receiving pits that control PM emissions by restricting vehicles unloading grain at these stations to hopper-bottom rail cars and trucks with choke unloading applications,

(2) One (1) enclosed drag conveyor system (or equivalent) that utilizes an oil application to control PM emissions,

(3) Two (2) aspirated soybean and hull receiving legs that utilize an oil application and one (1) baghouse (C1) that exhausts to Stack 1 to control PM emissions,

(4) One (1) enclosed drag conveyor that transfers the soybean at a maximum rate of 540 tons per hour from the receiving leg to the soybean covered belt conveyor that loads the soybean silos and the hull at a maximum rate of 170 tons per hour from the receiving leg to the hull covered belt conveyor that loads the hull silos;

(g) One (1) barge soybean receiving area (P16) with a maximum throughput capacity of 540 tons per hour consisting of:

(1) One (1) clamshell crane or bucket unloading to one (1) aspirated hopper unloading to one (1) enclosed belt/mass flow conveyor that controls PM emissions with one (1) baghouse (C16) that exhausts to Stack 16,

(2) One (1) enclosed conveyor system that utilizes an oil application to control PM emissions,

(3) One (1) enclosed bucket elevator, and

(4) One (1) enclosed belt/mass flow conveyor that discharges to the truck and rail receiving scale;

SECTION D.1 (cont.)

(h) Twelve (12) concrete soybean silos, with a maximum storage capacity of 2,191.6 tons (73,053 bushels) each, that utilize an oil application to control PM emissions;

(i) Four (4) concrete soybean storage silos with a maximum capacity of 19,375 bushels each, that utilize an oil application to control PM emissions;

(j) Two (2) concrete soybean storage silos, with a maximum capacity of 18,801 bushels each, that utilize an oil application to control PM emissions;

(k) One (1) flow coating material kaolin receiving bin that controls PM emissions with one (1) baghouse (C3) that exhausts to Stack 3;

(l) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor at a maximum rate of 0.417 tons per hour;

(m) Three (3) totally enclosed drag conveyors (or equivalent) comprising two conveyance systems located below the storage silos that transfer the soybeans from the silos to the elevator legs at a maximum rate of 115 tons per hour per system. Only one system operates at any given time and the systems utilize an oil application to control PM emissions;

(n) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner at a maximum rate of 115 tons per hour each, and utilize an oil application to control PM emissions;

(o) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet at a maximum rate of 115 tons per hour;

(p) One (1) magnet, with a maximum capacity of 115 tons per hour, that utilizes both an oil application and one (1) baghouse (C4) that exhausts to Stack 4 to control PM emissions;

(q) One (1) cleaning system with a maximum capacity of 115 tons per hour, consisting of one (1) cleaner, two (2) aspirators, two (2) hoppers, and one (1) scale, that utilize both an oil application and one (1) baghouse (C4) that exhausts to Stack 4 to control PM emissions and one (1) aspirator and one (1) breaker that utilize one (1) cyclone (C5E) that exhaust to Stack 5 to control PM;

(r) One (1) soybean heater, with a maximum capacity of 115 tons per hour, that exhausts to Stack 21;

(s) One (1) L-Path totally enclosed drag conveyor (or equivalent) that transfers the cleaned soybeans at a maximum rate of 115 tons per hour;

(t) One (1) enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers soybeans to the jet dryers at a maximum rate of 115 tons per hour;

SECTION D.1 (cont.)

(u) Three (3) jet dryers, with a maximum capacity of 42 tons per hour each, that controls PM emissions with three (3) cyclones (C5A, C5B, and C5F) that exhaust to Stack 5;

(v) Three (3) primary CCD dryers, with a combined maximum capacity of 115 tons per hour, that controls PM emissions with two (2) cyclones (C5C and C5G) that exhaust to Stack 5;

(w) Three (3) secondary CCC coolers, with a combined maximum capacity of 115 tons per hour, that controls PM emissions with two (2) cyclones (C5D and C5H) that exhaust to Stack 5;

(x) Six (6) cracking and dehulling rolls, with a combined maximum capacity of 115 tons per hour, that transfer the hulls through four (4) cyclones (C5C, C5D, C5G, and C5H) to an enclosed conveyor;

(y) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system at a maximum rate of 8.05 tons per hour;

(z) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator at a maximum rate of 8.05 tons per hour;

(aa) One (1) hull screener and aspirator, with a maximum capacity of 8.05 tons per hour, that controls PM emissions with one (1) cyclone (C5E) that exhausts to Stack 5;

(bb) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls from the hull screener to the hull grinders at a maximum rate of 8.05 tons per hour;

(cc) Two (2) hull grinders, with a maximum system capacity of 8.05 tons per hour, that transfers the ground hulls to one (1) baghouse (C6) that exhausts to Stack 6;

(dd) Hull storage bins, with a maximum capacity of 39,000 cubic feet, that controls PM emissions with one (1) baghouse (C7) that exhausts to Stack 7;

(ee) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls to the hull hopper at a maximum rate of 15 tons per hour;

(ff) One (1) hull hopper that feeds to the pellet mill at a maximum rate of 15 tons per hour that controls PM emissions with one (1) baghouse (C7A) that exhausts to Stack 7A;

(gg) One (1) hull pellet mill with a maximum capacity of 15 tons per hour;

(hh) One (1) hull pellet cooler, with a maximum capacity of 15 tons per hour, that controls PM emissions with one (1) cyclone (C8) that exhausts to Stack 8;

SECTION D.1 (cont.)

(ii) Pellet storage bins with a maximum capacity of 70,000 cubic feet, that controls PM emissions with one (1) baghouse (C8A) that exhausts to Stack 8A;

(jj) One (1) totally enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers beans from cracking and dehulling to the flakers at a maximum rate of 104.9 tons per hour;

(kk) Nine (9) flakers, with a combined maximum capacity of 104.9 tons per hour, that controls PM emissions with three (3) baghouses (C19A, C19B, and C19C) that exhaust to Stack 19;

(ll) Two (2) totally enclosed drag conveyors (or equivalent) in series that transfer soybean flakes and collets from the flakers and the expander system to the feed screw conveyor at a maximum rate of 104.9 tons per hour;

(mm) One (1) feed screw conveyor that transfers soybean flakes and collets to the extractor at a maximum rate of 104.9 tons per hour;

(nn) One (1) soybean oil extractor, with a maximum capacity of 104.9 tons of soybean flakes and collets per hour and 104.9 tons of hexane per hour, that controls hexane (VOC) emissions with one (1) mineral oil absorber system (C13) that exhausts to Stack 13;

(oo) One (1) desolventizer unit, with a maximum capacity of 86.8 tons of spent soybean flakes and collets per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhausts to Stack 13;

(pp) A set of evaporators, with a maximum capacity of 20.7 tons of soybean oil per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhaust to Stack 13;

(qq) A set of condensers and water separator to separate hexane and water, with a maximum capacity of 20.7 tons of soybean oil per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhaust to Stack 13;

(rr) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a maximum rate of 86.8 tons per hour and 34.5 tons per hour, respectively;

(ss) One (1) DTDC meal dryer section 1, with a maximum drying capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) cyclone (C10) that exhausts to Stack 10;

(tt) One (1) DTDC meal dryer section 2, with a maximum drying capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) cyclone (C11) that exhausts to Stack 11;

SECTION D.1 (cont.)

(uu) One (1) DTDC meal cooler section, with a maximum cooling capacity of 83.4 tons of meal per hour, that transfers the meal to one (1) cyclone (C12) to Stack 12;

(vv) One (1) DTDC enclosed screw conveyor (or equivalent) that transfers meal from the DTDC meal cooler and three (3) DTDC cyclones (C10, C11, and C12) to the meal surge bin conveyor at a maximum capacity of 83.4 tons per hour;

(ww) One (1) totally enclosed surge bin conveyor that transfers the meal to the surge bins at a maximum rate of 83.4 tons per hour;

(xx) Two (2) meal surge bins, with a maximum storage capacity of 19,500 cubic feet, that feed to the screeners or the recycle leg that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(yy) One (1) elevator leg that transfers the meal to the sizing process at a maximum rate of 83.4 tons per hour;

(zz) Five (5) meal screeners, with a maximum capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(aaa) One (1) meal screening hopper that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(bbb) Two (2) meal grinders, with a combined maximum capacity of 83.4 tons per year, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ccc) Two (2) meal grinding hoppers and two (2) aspirators that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ddd) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the grinding hoppers to the meal mixing screw conveyor at a maximum rate of 83.4 tons per hour;

(eee) One (1) enclosed meal mixing screw conveyor (or equivalent) that transfers meal to the mixed meal elevator leg at a maximum rate of 83.8 tons per hour;

(fff) One (1) mixed meal elevator leg, with a maximum capacity of 83.8 tons per hour, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ggg) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the mixed meal elevator leg to the meal storage tanks, load out bins and bulk weigh system at a maximum rate of 83.8 tons per hour;

(hhh) Meal storage tanks (capacity 292,000 cubic feet) and loadout bins (capacity 58,000 cubic feet), with a combined maximum storage capacity of 350,000 cubic feet, that controls PM emissions with one (1) baghouse (C20) that exhausts to Stack 20;

SECTION D.1 (cont.)

(iii) One (1) totally enclosed drag conveyor (or equivalent) that transfers soybean meal from the meal storage tanks to the meal elevator leg at a maximum rate of 300 tons per hour;

(jjj) One (1) meal elevator leg that operates at a maximum capacity of 300 tons per hour and controls PM emissions with one (1) baghouse (C20) that exhausts to Stack 20;

(kkk) One (1) truck loadout scalper with a totally enclosed ball breaker that operates at a maximum capacity of 383.3 tons per hour;

(lll) Two (2) totally enclosed drag conveyors (or equivalent) that transfer meal from the meal loadout bins to the truck at a maximum rate of 383.3 tons per hour each;

(mmm) One (1) truck loadout chute that operates at a maximum capacity of 383.3 tons per hour and controls PM emissions with one (1) baghouse (C14) that exhausts to Stack 14;

(nnn) One (1) rail and barge loadout scalper with a totally enclosed ball breaker that operates at a maximum capacity of 383.3 tons per hour;

(ooo) One (1) rail and barge bulk weigh system consisting of one (1) upper garner, one (1) weigh hopper, and one (1) lower surge that operates at a maximum capacity of 383.3 tons per hour;

(ppp) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the lower surge to rail or barge loadout at a maximum rate of 383.3 tons per hour;

(qqq) Two (2) rail loadout systems that operates at a maximum total capacity of 383.3 tons per hour, based on only one system operating at a time, and control PM emissions with one (1) baghouse (C15) that exhausts to Stack 15;

(rrr) One (1) enclosed conveyor that transfers soybean meal from the lower surge to the barge loadout system at a maximum rate of 383.3 tons;

(sss) One (1) barge loadout system that operates at a maximum capacity of 383.3 tons per hour and controls PM emissions with one (1) baghouse (C15) that exhausts to Stack 15;

(ttt) Three (3) 33.7 million (MM)Btu per hour natural gas fired boilers that exhaust to Stacks 17, 18, and 18A;

(uuu) Two (2) fixed roof hexane storage tanks with a maximum storage capacity of 14,000 gallons each;

(vvv) One (1) fixed roof hexane work tank with a maximum storage capacity of 8,000 gallons;

SECTION D.1 (cont.)

(www) Four (4) fixed roof soybean oil storage tanks with a maximum storage capacity of 932 cubic meters each;

(xxx) Three (3) fixed roof soybean oil storage day tanks with a maximum storage capacity of 114 cubic meters each; and

(yyy) One (1) fixed roof dust suppression soybean/mineral oil storage tank with a maximum storage capacity of 1,000 gallons.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions).

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the affected facilities described in this section except when otherwise specified in 40 CFR Part 60, Subpart DD.

D.1.2 New Source Performance Standards(NSPS) Grain Elevators [326 IAC 12] [40 CFR Subpart DD 60.302(b)]

Pursuant to 40 CFR Subpart DD 60.302(b), process emission gases discharged into the atmosphere from the:

(a) north truck only receiving pit; north house bin loading area elevator and conveyors; north storage/loadout area conveyors;

(b) receiving area P1 truck only receiving pit, belt conveyor system, aspirated receiving leg, drag conveyor and covered belt conveyor;

(c) receiving area P2 hopper bottom truck and rail receiving pits, drag conveyors and aspirated receiving legs;

(d) barge receiving area clamshell crane or bucket unloading, aspirated hopper, belt/mass flow conveyors, conveyor system and bucket elevators;

(e) drag conveyors comprising two conveyance systems between the storage silos and elevator legs; elevator legs; conveyor between the elevator legs and magnet;

(f) cleaning system cleaner, aspirators, hoppers, and scale; and

(g) L-Path drag conveyor; drag conveyor to the jet dryers;

shall not exceed particulate matter (PM) concentrations of 0.01 gr/dscf. Process emission gases from these facilities shall not exhibit greater than 0 percent opacity.

D.1.3 New Source Performance Standards(NSPS) Grain Elevators [326 IAC 12] [40 CFR Subpart DD 60.302(c)]

(a) Pursuant to 40 CFR Subpart DD 60.302(c)(1), fugitive emissions from the truck unloading area P1, hopper bottom truck and rail car unloading area P2, and north truck unloading area shall not exhibit greater than 5 % opacity.

(b) Pursuant to 40 CFR Subpart DD 60.302(c)(2), fugitive emissions from the grain handling operations shall not exhibit greater than 0 % opacity 40 CFR Subpart DD 60.302(c).

(c) Pursuant to 40 CFR Subpart DD 60.302(c)(4), the barge unloading operation shall operate as follows:

(1) The unloading leg shall be enclosed from the top (including the receiving hopper) to the center line of the bottom pulley and ventilation to a control device shall be maintained on both sides of the leg and the grain receiving hopper.

(2) The total rate of air ventilated shall be at least 32.1 actual cubic meters per cubic meter of grain handling capacity.

D.1.4 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The throughput of processed soybeans to the soybean processing facilities shall not exceed 940,240 tons per twelve (12) consecutive month period. This limit is required such that the PTE PM and VOC is less than 250 tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.5 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2, the PM from the:

Truck Receiving and Conveyors (P1), Rail/Hopper Bed Truck Receiving (P2), North Truck Receiving and Conveyors, Barge Grain Receiving (P16), Annex Silo Loading (P2A), Merchandizing Silo Loading (P26), North House Bin Loading, North House Storage Loadout, Soybean Cleaning (P4), Soybean Heater (P21), Soybean Cracking/Dehulling (P5), Soybean Expander (P23), Soybean Flaking (P19), DTDC Meal Drying (P10 & P11), DTDC Meal Cooling (P12), Meal Sizing (P9), Kaolin Handling (P3), Hull Grinding (P6), Hull Storage Loading (P7), Hull Storage Unloading (P7), Hull Pellet Cooling (P8), Hull Pellet Storage (P8), Meal Storage & Loadout Bins (P20), Truck Meal Loadout (P14), and Barge/Rail Meal Loadout (P15)

shall not exceed the pound per hour emission rate established as E in one of the following applicable formulas:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

-- or --

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.1.6 Particulate Matter Emission Rate Limitations

Pursuant to Consolidated Grain and Barge Company's request, the particulate matter (PM) emission rates shall be limited to the potential controlled emissions as reported below:

Process	PM Emission Rate
Truck Receiving and Conveyors (P1)	0.56 lb/hr
Rail/Hopper Bed Truck Receiving (P2)	0.014 lb/ton bean unloaded
North Truck Receiving and Conveyors (P24)	0.43 lb/hr

Process	PM Emission Rate
Barge Grain Receiving (P16)	0.69 lb/hr
Annex Silo Loading (P2A)	0.003 lb/ton bean handled
Merchandizing Silo Loading (P26)	0.009 lb/ton bean handled
North House Bin Loading	0.009 lb/ton bean handled
North House Storage Loadout	0.009 lb/ton bean handled
Soybean Cleaning (P4)	0.82 lb/hr
Soybean Heater (P21) and Soybean Cracking/Dehulling (P5)	12.40 lbs/hr
Soybean Expander (P23)	2.50 lb/hr
Soybean Flaking (P19)	0.39 lb/hr
DTDC Meal Drying Section 1 (P10)	10.00 lb/hr
DTDC Meal Drying Section 2 (P11)	1.80 lb/hr
DTDC Meal Cooling (P12)	1.00 lb/hr
Meal Sizing (P9)	0.26 lb/hr
Kaolin Handling (P3)	0.10 lb/hr
Hull Grinding (P6)	0.03 lb/hr
Hull Storage and Handling (P7)	0.34 lb/hr
Hull Pellet Cooling (P8)	5.14 lb/hr
Hull Pellet Storage (P8)	0.17 lb/hr
Meal Storage & Loadout Bins (P20)	0.26 lb/hr
Truck Meal Loadout (P14)	0.69 lb/hr
Barge/Rail Meal Loadout (P15)	0.69 lb/hr

Compliance with these voluntary limits satisfies the requirements of 326 IAC 6-3-2 in Condition D.1.5 for these facilities.

D.1.7 Best Available Control Technology (BACT) [326 IAC 8-1-6]

Pursuant to CP-129-7488-00035 (issued on July 17, 1995), as revised by source modification (129-12235-00035), the VOC (hexane) emissions from the soybean oil extractor plant shall comply with the Best Available Control Technology (BACT) for the oil extractor, meal dryers, and meal cooler. The company shall assure compliance with BACT by performing monitoring and recordkeeping such that the following limits are not exceeded:

(a) the hexane usage shall be limited to 0.225 gallons per ton of soybean crushed, and

(b) the total amount of soybeans processed at the plant shall meet the limit established in Condition D.1.4.

The limits established correspond to the following BACT determinations:

Facility	BACT	VOC (Hexane) Emission Limit including upset conditions
The extraction and distillation process including the oil extractor, desolventizer, evaporators, solvent separator and vent system	Mineral Oil Absorber System	0.084 lb/ton soybean processed
Meal dryers	None	0.30 lb/ton soybean processed
Meal cooler	None	0.051 lb/ton soybean processed

The company will minimize the hexane emissions by training the operators and supervisors. At the end of each calendar year, the company shall submit to the IDEM a progress report of efforts taken to reduce hexane emissions from the plant.

D.1.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within sixty (60) days of reaching maximum capacity but no later than 180 days after initial startup, the Permittee shall perform particulate matter (PM) and volatile organic compound (VOC) testing utilizing Method 5 for PM and Method 25 for VOC (40 CFR 60, Appendix A), or other methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C- Performance Testing.

Consolidated Grain and Barge Company shall submit a stack testing plan to the IDEM within 30 days after initial start-up. This plan shall outline the measures to be taken to demonstrate compliance with permitted emission rates and must be approved by IDEM. The plan shall identify the facilities and the methods in which emissions from the representative facilities of the following facilities list shall be evaluated to determine initial compliance at the increased plant capacity:

Facility	Pollutant
P1 - Truck Receiving and Conveyors Baghouse (C1)	PM
North Truck Only Receiving Baghouse (C24)	PM
Barge Receiving Baghouse (C16)	PM
Oil application dust control on P1 Truck Receiving or H.B. Truck and Rail Receiving conveyors	PM
Oil application dust control on Annex Silo Loading, Merchandizing Silo Loading or North House Storage/Loadout	PM
Soybean Cleaning System Baghouse (C4) and Aspirator/Breaker Cyclone (C5E)	PM
Soybean Heater	PM
Jet Dryers Cyclones (C5A, C5B and C5F)	PM

Facility	Pollutant
Primary CCD Dryers Cyclones (C5C and C5G)	PM
Secondary CCC Coolers Cyclones (C5D and C5H)	PM
Soybean Expander Cyclone (C23)	PM
Soybean Flaking Baghouses (C19A, C19B and C19C)	PM
DTDC Meal Drying Section 1 Cyclone (C10)	PM, VOC
DTDC Meal Drying Section 2 Cyclone (C11)	PM, VOC
DTDC Meal Cooling Cyclone (C12)	PM, VOC
Oil Extractor, Evaporator and Condenser Mineral Oil Absorber System (C13)	VOC
Meal Sizing Baghouse (C9)	PM
Kaolin Bin Vent Baghouse (C3)	PM
Hull Grinding Baghouse (C6)	PM
Hull Storage Bin Baghouse (C7) and Hopper Baghouse (C7A)	PM
Hull Pellet Cooling Cyclone (C8)	PM
Hull Pellet Storage Baghouse (C8A)	PM
Meal Storage & Loadout Bins Baghouse (C20)	PM
Truck Meal Loadout Baghouse (C14)	PM
Barge/Rail Meal Loadout Baghouse (C15)	PM

D.1.10 Volatile Organic Compounds (VOC)

Pursuant to CP129-7488-00035, the procedures to demonstrate compliance with the VOC emissions from the mineral oil absorber vent, meal dryers, meal cooler and total hexane usage shall be as follows:

(a) The mineral oil absorption vent VOC (hexane) emission rate shall be determined daily by measuring the airflow rate and the concentration of the hexane in the air stream. This concentration shall be determined by measuring the percent LEL. If the air flow meter proves unreliable, airflow can be determined by calculations.

(b) The hexane emission rate from the DTDC dryer cyclones and DTDC cooler cyclone shall be determined daily by laboratory test if the lower meal temperature of the desolventizer is below 215 degrees F. If the meal temperature of the desolventizer is above 215 degrees F, then the hexane emission rate will be based upon the compliance test results.

D.1.11 Particulate Matter (PM)

Compliance with PM emission limitations contained in Conditions D.1.2, D.1.5 and D.1.6 shall be demonstrated by the following conditions:

(a) The baghouses for the North Truck Receiving, P1 Truck Receiving/Receiving Leg, Barge Receiving/Conveyors, Kaolin Receiving Bins, Magnet, Cleaning System, Hull Grinders, Hull Storage Bins, Pellet Mill Hull Feed Hopper, Pellet Storage Bins, Meal Flakers, Meal Screeners, Meal Screening Hopper, Meal Grinders, Mixed Meal Elevator

Leg, Truck Loadout, Rail Loadout, and Barge Loadout shall be in operation at all times those facilities are in operation.

(b) The cyclones for the Cleaning System, Jet Dryers, CCD Dryers, CCC Coolers, Cracking and Dehulling, Hull Screening/Aspiration, Hull Pellet Cooler, DTDC Dryers, DTDC Cooler shall operate at all times when those facilities are in operation.

(c) Dust control oil shall be applied at all times that the Conveyors/Legs, Storage Silos, Magnet, Cleaning system and loading/unloading operations listed as utilizing said control are in operation. Oil application shall be at a rate determined appropriate based on PM compliance tests.

(d) The H.B. Truck and Rail receiving pits shall be limited to hopper bottom rail cars and trucks with choke unloading. Unloading at these receiving pits shall be conducted inside a two-sided and roofed enclosure to minimize fugitive emissions. Guidelines shall be posted in this area which address these operational limitations.

(e) Emissions shall be minimized in all receiving, handling, and shipping operations by appropriate methods. These may include, but may not be limited to: dust collection systems, windscreens, baffles, restricted hopper openings, enclosed transfer points, and flexible drop spouts and/or sleeves.

(f) Good housekeeping and equipment maintenance procedures shall be implemented.

D.1.12 Volatile Organic Compounds (VOC)

The mineral oil absorber shall operate at all times the soybean oil extractor, desolventizer, evaporators or condensers are in operation.

D.1.13 VOC and PM Emissions

Compliance with Condition D.1.4 shall be demonstrated within 30 days of the end of month based on the total processed grain throughput for that month and the previous eleven (11) months.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.14 Visible Emissions Notations

(a) Daily visible emission notations of the baghouse, cyclone, and absorber stack exhausts shall be performed once per working shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) Daily visible emission notations of the H.B. Truck and Rail receiving pits shall be performed once per working shift during daylight hours from outside the receiving area enclosure during normal daylight operations when rail car or truck unloading is occurring. A trained employee shall record whether emissions are normal or abnormal. These notations should be taken from a position approximately perpendicular to the prevailing wind direction which allows the trained employee to see the leeward side of the structure.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.15 Parametric Monitoring

The Permittee shall record the total static pressure drops across the baghouses used in conjunction with the North Truck Receiving, P1 Truck Receiving/Receiving Leg, Barge Receiving/Conveyors, Kaolin Receiving Bin, Magnet, Cleaning System, Hull Grinders, Hull Storage Bins, Pellet Mill Hull Feed Hopper, Pellet Storage Bins, Meal Flakers, Meal Screeners, Meal Screening Hopper, Meal Grinders, Mixed Meal Elevator Leg, Truck Loadout, Rail Loadout, and Barge Loadout at least once daily when the associated emission unit is in operation and venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 3.0 and 9.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.16 Baghouse Inspections

(a) An inspection shall be performed each calender quarter of all bags controlling the North Truck Receiving, P1 Truck Receiving/Receiving Leg, Barge Receiving/Conveyors, Kaolin Receiving Bins, Truck Loadout, Rail Loadout, and Barge Loadout operations when venting to the atmosphere. All defective bags shall be replaced.

(b) An inspection shall be performed at least annually of all bags controlling the Magnet, Cleaning System, Hull Grinders, Hull Storage Bins, Pellet Mill Hull Feed Hopper, Pellet Storage Bins, Meal Flakers, Meal Screeners, Meal Screening Hopper, Meal Grinders, Mixed Meal Elevator Leg, when venting to the atmosphere. All defective bags shall be replaced.

D.1.17 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.18 Cyclone Inspections

An inspection shall be performed at least annually of all cyclones controlling the Cleaning System, Jet Dryers, CCD Dryers, CCC Coolers, Cracking and Dehulling, Hull Screening/Aspiration, Hull Pellet Cooler, DTDC Dryers, DTDC Cooler operations when venting to the atmosphere.

D.1.19 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.20 VOC Monitoring

The following parameters shall be monitored for the extraction process:

(a) The inlet vacuum pressure of the vapor stream to the absorber shall not exceed 10 inches of water and the flow rate of the mineral oil through the absorber shall not be less than 15 gallons per minute. When the process is in operation, an electronic data management system (EDMS) shall record the instantaneous inlet vacuum pressure and flow rate on a frequency of not less than every 15 minutes.

(b) The temperature of the mineral oil entering the absorber shall be kept in a range of 70 to 105 degrees Fahrenheit (°F). When the process is in operation, an electronic data management system (EDMS) shall record the instantaneous temperature on a frequency of not less than every 15 minutes.

(c) The temperature of the soybean oil entering the mineral-oil-stripping column shall not be less than 200 degrees Fahrenheit (°F) for adequate stripping of the absorbed hexane from the oil. When the process is in operation, an EDMS shall record the instantaneous temperature on a frequency of not less than every 15 minutes.

The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when the parameter readings are outside of the above mentioned ranges. In the event that a breakdown of the EDMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameters should be implemented at intervals no less frequent than every 2 hours.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.21 Record Keeping Requirements

(a) To document compliance with D.1.4, the Permittee shall maintain monthly records of the throughput of processed soybeans to the soybean processing facility.

(b) To document compliance with D.1.7, the Permittee shall maintain monthly records of the total volume of hexane usage per ton of soybean crushed at the source.

(c) To document compliance with Condition D.1.14, the Permittee shall maintain daily work shift records of visible emission notations of all baghouse and cyclone stack exhausts.

(d) To document compliance with Conditions D.1.15 the Permittee shall maintain the following:

(1) Daily work shift records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Baghouse total static pressure drop across the tubesheet;

(B) Cleaning cycle: frequency and differential pressure. For baghouses that have cleaning cycles or differential pressure preset by the manufacturer, the Permittee can document the preset cycle or differential pressure once, versus re-documenting the preset every day, provided the preset cycle or differential pressure does not change.

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(e) To document compliance with Conditions D.1.16 and D.1.18, the Permittee shall maintain records of the results of the inspections required.

(f) To document compliance with Conditions D.1.10 and D.1.20, the Permittee shall maintain the following:

(1) Records of the daily airflow and VOC (hexane) concentration measured at the vent for the mineral oil absorber.

(2) Records of the days the lower meal temperature of the desolventizer is below 215 degrees F and meal laboratory VOC test results for those days.

(3) Electronic data management system (EDMS) records for the inlet vacuum pressure of the vapor stream to the absorber, flow rate of the mineral oil through the absorber, the mineral oil temperature entering the absorber and soybean oil temperature entering the stripping column. Records of the times and reasons of the breakdown of the EDMS and efforts made to correct the problem should accompany any supplemental or intermittent monitoring records occurring as a result of EDMS failure.

(g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.22 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.4 and D.1.7(b) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(ttt) Three (3) 33.7 million (MM)Btu per hour natural gas fired boilers that exhaust to Stacks 17, 18, and 18A;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1 (d)), particulate emissions from the natural gas fired boilers used for indirect heating purposes shall be limited to 0.328 pounds per million BTU heat input.

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements

D.2.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if these facilities are in compliance. If testing is required by IDEM , compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.4 Visible Emissions Notations

(a) Visible emission notations of the boiler stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.2.5 Record Keeping Requirements [326 IAC 12] [40 CFR 60.48c]

(a) Pursuant to 326 IAC 12 and 40 CFR 60.48c (g), the owner or operator shall record and maintain monthly records of the amount of natural gas combusted in each of the boilers.

(b) To document compliance with Condition D.2.4, the Permittee shall maintain records of visible emission notations of the boiler stack exhaust once per shift.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(uuu) Two (2) fixed roof hexane storage tanks with a maximum storage capacity of 14,000 gallons each.

(vvv) One (1) fixed roof hexane work tank with a maximum storage capacity of 8,000 gallons.

(www) Four (4) fixed roof soybean oil storage tanks with a maximum storage capacity of 932 cubic meters each.

(xxx) Three (3) fixed roof soybean oil storage day tanks with a maximum storage capacity of 114 cubic meters each.

(yyy) One (1) fixed roof dust suppression soybean/mineral oil storage tank with a maximum storage capacity of 1,000 gallons.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.1 New Source Performance Standards (NSPS) Volatile Organic Liquid (VOL) Storage Vessels (including petroleum liquid storage vessels) for Which Construction Commenced after July 23, 1984 [326 IAC 12] [40 CFR 60 Subpart Kb 60.116b]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart Kb, the owner or operator shall keep readily accessible records that report the dimensions and capacities of the seven (7) soybean oil storage tanks and the two (2) hexane storage tanks. These records shall be maintained for the life of the tanks.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) Degreasing operations not exceeding 145 gallons per 12 months.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.4.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Consolidated Grain and Barge Company
Source Address: Bluff Road, Mt. Vernon, Indiana, 47620
Mailing Address: P.O. Box 548, Mt. Vernon, Indiana, 47620-0548
Part 70 Permit No: 129-10111-00035

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Annual Compliance Certification Letter _____

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE BRANCH
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Consolidated Grain and Barge Company
Source Address: Bluff Road, Mt. Vernon, Indiana, 47620
Mailing Address: P.O. Box 548, Mt. Vernon, Indiana, 47620-0548
Part 70 Permit No: 129-10111-00035

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)
- C The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- C The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Consolidated Grain and Barge Company
Source Address: Bluff Road, Mt. Vernon, Indiana, 47620
Mailing Address: P.O. Box 548, Mt. Vernon, Indiana, 47620-0548
Part 70 Permit No: 129-10111-00035
Facility: Plant throughput limit
Parameter: PM, VOC
Limit: The throughput of processed soybeans to the soybean processing facilities shall not exceed 940,240 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Consolidated Grain and Barge Company
Source Address: Bluff Road, Mt. Vernon, Indiana, 47620
Mailing Address: P.O. Box 548, Mt. Vernon, Indiana, 47620-0548
Part 70 Permit No: 129-10111-00035

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".
9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Page 2 of 2

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: ____________________

Title/Position: ____________________

Date: ____________________

Phone: ____________________

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Background and Description

Source Name:	**Consolidated Grain and Barge Company**
Source Location:	**Bluff Road, Mount Vernon, Indiana**
County:	**Posey**
SIC Code:	**2057**
Operation Permit No.:	**T 129-10111-00035**
Permit Reviewer:	**ERG/KH**

The Office of Air Management (OAM) has reviewed a Part 70 permit application from Consolidated Grain and Barge Company relating to the operation of a soybean extraction plant with a maximum annual processing capacity of 940,240 tons of soybeans per year.

Source Definition

Consolidated Grain and Barge Company has a merchandising house located near the soybean oil extraction plant. The merchandising house and soybean oil extraction plant are considered separate sources based on the following:

(a) The two sources have different Standard Industrial Classification (SIC) codes. The SIC code for the soybean extraction plant is 2057, and the SIC code for the merchandising house is 5153.

(b) Less than fifty percent (50%) of the soybeans processed at the extraction plant are stored at the merchandising house storage area for any length of time.

Note: Although considered separate sources, during the review of the grain dryer application (No. 129-9854, withdrawn by Consolidated on August 30, 1999) , it was determined based on guidance from U.S. EPA Region 5 (a letter dated May 27, 1999, from George Czerniak) that a portion of the storage area at the nearby Merchandising House should be associated with the soybean oil extraction plant for the purpose of determining applicability of the New Source Performance Standard (NSPS) Subpart DD. This issue is further discussed in the “Federal Rules” section of this TSD.

Permit Emission Units

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) truck only soybean north receiving area (P24) with a maximum throughput capacity of 360 tons per hour consisting of:

(1) One (1) truck only receiving pit that controls PM emissions with one (1) baghouse (C24) that exhausts to Stack 24;

(b) One (1) north house bin loading area (P27) with a maximum throughput capacity of 360 tons per hour loading consisting of:

(1) One (1) totally enclosed aspirated elevator leg that transfers soybeans to enclosed conveyors at a maximum rate of 720,000 pounds per hour;

(2) Three (3) enclosed conveyors that transfer the soybean from the north receiving area to the soybean storage areas at a combined maximum rate of 720,000 pounds per hour;

(c) One (1) north storage/loadout area (P25) with a maximum throughput capacity of 360 tons per hour loading/unloading consisting of:

(1) Two (2) steel storage tanks with a maximum capacity of 21,000 tons (700,000 bushels), each, that utilize oil application to control PM emissions;

(2) Two (2) enclosed conveyors that transfer the soybean from the storage area to the loadout bin at a combined maximum rate of 720,000 pounds per hour;

(d) One (1) soybean expander system (P23) with a maximum capacity of 50 tons per hour consisting of:

(1) One (1) expander, forming soybean collets, with a maximum capacity of 50 tons per hour;
(2) One (1) soybean collet cooler with a maximum capacity of 50 tons per hour that controls PM emissions with one (1) cyclone (C23) that exhausts to Stack 23;

(3) Two (2) totally enclosed conveyors that transfer soybean fines from the hull aspirator to an enclosed expander conveyor at a maximum rate of 50 tons per hour;

(4) Two (2) totally enclosed expander conveyors that transfer soybean flakes and fines to the expander at a maximum rate of 50 tons per hour;

(5) One (1) totally enclosed conveyor that transfers soybean collets from the expander to the cooler at a maximum rate of 50 tons per hour;

(6) One (1) totally enclosed conveyor that transfers soybean collets from the cooler to the enclosed flake conveyor at a maximum rate of 50 tons per hour.

(e) One (1) truck only soybean receiving area (P1) with a maximum throughput capacity of 600 tons per hour consisting of:

(1) One (1) truck only receiving pit that controls PM emissions with one (1) baghouse (C1) that exhausts to Stack 1,

(2) One (1) totally enclosed belt conveyor system (or equivalent) that utilizes an oil application to control PM emissions,

(3) One (1) aspirated soybean receiving leg that utilizes an oil application and one (1) baghouse (C1) that exhausts to Stack 1 to control PM emissions,

(4) One (1) drag conveyor that transfers the soybean from the receiving leg to the soybean covered belt conveyor, and

(5) One (1) covered belt conveyor that loads the soybean storage silos;

(f) One (1) truck and rail soybean and hull receiving area (P2) with a maximum throughput capacity of 540 tons per hour consisting of:

(1) Two (2) H.B. truck and rail receiving pits that control PM emissions by restricting vehicles unloading grain at these stations to hopper-bottom rail cars and trucks with choke unloading applications,

(2) One (1) enclosed drag conveyor system (or equivalent) that utilizes an oil application to control PM emissions,

(3) Two (2) aspirated soybean and hull receiving legs that utilize an oil application and one (1) baghouse (C1) that exhausts to Stack 1 to control PM emissions,

(4) One (1) enclosed drag conveyor that transfers the soybean at a maximum rate of 540 tons per hour from the receiving leg to the soybean covered belt conveyor that loads the soybean silos and the hull at a maximum rate of 170 tons per hour from the receiving leg to the hull covered belt conveyor that loads the hull silos;

(g) One (1) barge soybean receiving area (P16) with a maximum throughput capacity of 540 tons per hour consisting of:

(1) One (1) clamshell crane or bucket unloading to one (1) aspirated hopper unloading to one (1) enclosed belt/mass flow conveyor that controls PM emissions with one (1) baghouse (C16) that exhausts to Stack 16,

(2) One (1) enclosed conveyor system that utilizes an oil application to control PM emissions,

(3) One (1) enclosed bucket elevator, and

(4) One (1) enclosed belt/mass flow conveyor that discharges to the truck and rail receiving scale;

(h) Twelve (12) concrete soybean silos, with a maximum storage capacity of 2,191.6 tons (73,053 bushels) each, that utilize an oil application to control PM emissions;

(i) Four (4) concrete soybean storage silos with a maximum capacity of 19,375 bushels each, that utilize an oil application to control PM emissions;

(j) Two (2) concrete soybean storage silos, with a maximum capacity of 18,801 bushels each, that utilize an oil application to control PM emissions;

(k) One (1) flow coating material kaolin receiving bin that controls PM emissions with one (1) baghouse (C3) that exhausts to Stack 3;

(l) One (1) flow coating material enclosed conveyor system that transfers kaolin to the enclosed mixing screw conveyor at a maximum rate of 0.417 tons per hour;

(m) Three (3) totally enclosed drag conveyors (or equivalent) comprising two conveyance systems located below the storage silos that transfer the soybeans from the silos to the elevator legs at a maximum rate of 115 tons per hour per system. Only one system operates at any given time and the systems utilize an oil application to control PM emissions;

(n) Two (2) soybean elevator legs that transfer the soybeans from the drag conveyor to the cleaner at a maximum rate of 115 tons per hour each, and utilize an oil application to control PM emissions;

(o) One (1) totally enclosed conveyor that transfers the soybeans from the elevator legs to the magnet at a maximum rate of 115 tons per hour;

(p) One (1) magnet, with a maximum capacity of 115 tons per hour, that utilizes both an oil application and one (1) baghouse (C4) that exhausts to Stack 4 to control PM emissions;

(q) One (1) cleaning system with a maximum capacity of 115 tons per hour, consisting of one (1) cleaner, two (2) aspirators, two (2) hoppers, and one (1) scale, that utilize both an oil application and one (1) baghouse (C4) that exhausts to Stack 4 to control PM emissions and one (1) aspirator and one (1) breaker that utilize one (1) cyclone (C5E) that exhaust to Stack 5 to control PM;

(r) One (1) soybean heater, with a maximum capacity of 115 tons per hour, that exhausts to Stack 21;

(s) One (1) L-Path totally enclosed drag conveyor (or equivalent) that transfers the cleaned soybeans at a maximum rate of 115 tons per hour;

(t) One (1) enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers soybeans to the jet dryers at a maximum rate of 115 tons per hour;

(u) Three (3) jet dryers, with a maximum capacity of 42 tons per hour each, that controls PM emissions with three (3) cyclones (C5A, C5B, and C5F) that exhaust to Stack 5;

(v) Three (3) primary CCD dryers, with a combined maximum capacity of 115 tons per hour, that controls PM emissions with two (2) cyclones (C5C and C5G) that exhaust to Stack 5;

(w) Three (3) secondary CCC coolers, with a combined maximum capacity of 115 tons per hour, that controls PM emissions with two (2) cyclones (C5D and C5H) that exhaust to Stack 5;

(x) Six (6) cracking and dehulling rolls, with a combined maximum capacity of 115 tons per hour, that transfer the hulls through four (4) cyclones (C5C, C5D, C5G, and C5H) to an enclosed conveyor;

(y) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls from cyclones C5A and C5B to the hull grinding system at a maximum rate of 8.05 tons per hour;

(z) One (1) totally enclosed cracking and dehulling drag conveyor (or equivalent) that transfers hulls and aspirated fines from cyclones C5C, C5D, C5F, C5G, C5H, and the totally enclosed auger (or equivalent) of filter C4 to the hull screener and aspirator at a maximum rate of 8.05 tons per hour;

(aa) One (1) hull screener and aspirator, with a maximum capacity of 8.05 tons per hour, that controls PM emissions with one (1) cyclone (C5E) that exhausts to Stack 5;

(bb) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls from the hull screener to the hull grinders at a maximum rate of 8.05 tons per hour;

(cc) Two (2) hull grinders, with a maximum system capacity of 8.05 tons per hour, that transfers the ground hulls to one (1) baghouse (C6) that exhausts to Stack 6;

(dd) Hull storage bins, with a maximum capacity of 39,000 cubic feet, that controls PM emissions with one (1) baghouse (C7) that exhausts to Stack 7;

(ee) One (1) totally enclosed drag conveyor (or equivalent) that transfers hulls to the hull hopper at a maximum rate of 15 tons per hour;

(ff) One (1) hull hopper that feeds to the pellet mill at a maximum rate of 15 tons per hour that controls PM emissions with one (1) baghouse (C7A) that exhausts to Stack 7A;

(gg) One (1) hull pellet mill with a maximum capacity of 15 tons per hour;

(hh) One (1) hull pellet cooler, with a maximum capacity of 15 tons per hour, that controls PM emissions with one (1) cyclone (C8) that exhausts to Stack 8;

(ii) Pellet storage bins with a maximum capacity of 70,000 cubic feet, that controls PM emissions with one (1) baghouse (C8A) that exhausts to Stack 8A;

(jj) One (1) totally enclosed drag conveyor (or equivalent) and one (1) totally enclosed overflow recycle L-Path conveyor (or equivalent) with a totally enclosed surge hopper that transfers beans from cracking and dehulling to the flakers at a maximum rate of 104.9 tons per hour;

(kk) Nine (9) flakers, with a combined maximum capacity of 104.9 tons per hour, that controls PM emissions with three (3) baghouses (C19A, C19B, and C19C) that exhaust to Stack 19;

(ll) Two (2) totally enclosed drag conveyors (or equivalent) in series that transfer soybean flakes and collets from the flakers and the expander system to the feed screw conveyor at a maximum rate of 104.9 tons per hour;

(mm) One (1) feed screw conveyor that transfers soybean flakes and collets to the extractor at a maximum rate of 104.9 tons per hour;

(nn) One (1) soybean oil extractor, with a maximum capacity of 104.9 tons of soybean flakes and collets per hour and 104.9 tons of hexane per hour, that controls hexane (VOC) emissions with one (1) mineral oil absorber system (C13) that exhausts to Stack 13;

(oo) One (1) desolventizer unit, with a maximum capacity of 86.8 tons of spent soybean flakes and collets per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhausts to Stack 13;

(pp) A set of evaporators, with a maximum capacity of 20.7 tons of soybean oil per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhaust to Stack 13;

(qq) A set of condensers and water separator to separate hexane and water, with a maximum capacity of 20.7 tons of soybean oil per hour, that controls hexane emissions with one (1) mineral oil absorber system (C13) that exhaust to Stack 13;

(rr) One (1) totally enclosed drag conveyor (or equivalent) that transfers flakes and hexane to the desolventizer at a maximum rate of 86.8 tons per hour and 34.5 tons per hour, respectively;

(ss) One (1) DTDC meal dryer section 1, with a maximum drying capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) cyclone (C10) that exhausts to Stack 10;

(tt) One (1) DTDC meal dryer section 2, with a maximum drying capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) cyclone (C11) that exhausts to Stack 11;

(uu) One (1) DTDC meal cooler section, with a maximum cooling capacity of 83.4 tons of meal per hour, that transfers the meal to one (1) cyclone (C12) to Stack 12;

(vv) One (1) DTDC enclosed screw conveyor (or equivalent) that transfers meal from the DTDC meal cooler and three (3) DTDC cyclones (C10, C11, and C12) to the meal surge bin conveyor at a maximum capacity of 83.4 tons per hour;

(ww) One (1) totally enclosed surge bin conveyor that transfers the meal to the surge bins at a maximum rate of 83.4 tons per hour;

(xx) Two (2) meal surge bins, with a maximum storage capacity of 19,500 cubic feet, that feed to the screeners or the recycle leg that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(yy) One (1) elevator leg that transfers the meal to the sizing process at a maximum rate of 83.4 tons per hour;

(zz) Five (5) meal screeners, with a maximum capacity of 83.4 tons of meal per hour, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(aaa) One (1) meal screening hopper that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(bbb) Two (2) meal grinders, with a combined maximum capacity of 83.4 tons per year, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ccc) Two (2) meal grinding hoppers and two (2) aspirators that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ddd) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the grinding hoppers to the meal mixing screw conveyor at a maximum rate of 83.4 tons per hour;

(eee) One (1) enclosed meal mixing screw conveyor (or equivalent) that transfers meal to the mixed meal elevator leg at a maximum rate of 83.8 tons per hour;

(fff) One (1) mixed meal elevator leg, with a maximum capacity of 83.8 tons per hour, that controls PM emissions with one (1) baghouse (C9) that exhausts to Stack 9;

(ggg) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the mixed meal elevator leg to the meal storage tanks, load out bins and bulk weigh system at a maximum rate of 83.8 tons per hour;

(hhh) Meal storage tanks (capacity 292,000 cubic feet) and loadout bins (capacity 58,000 cubic feet), with a combined maximum storage capacity of 350,000 cubic feet, that controls PM emissions with one (1) baghouse (C20) that exhausts to Stack 20;

(iii) One (1) totally enclosed drag conveyor (or equivalent) that transfers soybean meal from the meal storage tanks to the meal elevator leg at a maximum rate of 300 tons per hour;

(jjj) One (1) meal elevator leg that operates at a maximum capacity of 300 tons per hour and controls PM emissions with one (1) baghouse (C20) that exhausts to Stack 20;

(kkk) One (1) truck loadout scalper with a totally enclosed ball breaker that operates at a maximum capacity of 383.3 tons per hour;

(lll) Two (2) totally enclosed drag conveyors (or equivalent) that transfer meal from the meal loadout bins to the truck at a maximum rate of 383.3 tons per hour each;

(mmm) One (1) truck loadout chute that operates at a maximum capacity of 383.3 tons per hour and controls PM emissions with one (1) baghouse (C14) that exhausts to Stack 14;

(nnn) One (1) rail and barge loadout scalper with a totally enclosed ball breaker that operates at a maximum capacity of 383.3 tons per hour;

(ooo) One (1) rail and barge bulk weigh system consisting of one (1) upper garner, one (1) weigh hopper, and one (1) lower surge that operates at a maximum capacity of 383.3 tons per hour;

(ppp) One (1) totally enclosed drag conveyor (or equivalent) that transfers meal from the lower surge to rail or barge loadout at a maximum rate of 383.3 tons per hour;

(qqq) Two (2) rail loadout systems that operates at a maximum total capacity of 383.3 tons per hour, based on only one system operating at a time, and control PM emissions with one (1) baghouse (C15) that exhausts to Stack 15;

(rrr) One (1) enclosed conveyor that transfers soybean meal from the lower surge to the barge loadout system at a maximum rate of 383.3 tons;

(sss) One (1) barge loadout system that operates at a maximum capacity of 383.3 tons per hour and controls PM emissions with one (1) baghouse (C15) that exhausts to Stack 15;

(ttt) Three (3) 33.7 million (MM)Btu per hour natural gas fired boilers that exhaust to Stacks 17, 18, and 18A;

(uuu) Two (2) fixed roof hexane storage tanks with a maximum storage capacity of 14,000 gallons each;

(vvv) One (1) fixed roof hexane work tank with a maximum storage capacity of 8,000 gallons;

(www) Four (4) fixed roof soybean oil storage tanks with a maximum storage capacity of 932 cubic meters each;

(xxx) Three (3) fixed roof soybean oil storage day tanks with a maximum storage capacity of 114 cubic meters each; and

(yyy) One (1) fixed roof dust suppression soybean/mineral oil storage tank with a maximum storage capacity of 1,000 gallons.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1)21:

(a) Natural gas-fired combustion sources with heat input equal to or less than 10,000,000 Btu per hour.

(b) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(c) A gasoline fuel transfer and dispensing operating handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity of less than or equal to 10,500 gallons.

(d) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(e) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

(f) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(g) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(h) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

(I) Machining where an aqueous cutting coolant continuously floods the machining interface.

(j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 325 IAC 20-6.

(k) Closed loop heating and cooling systems.

(l) Structural steel and bridge fabricator activities; cutting 200,000 linear feet or less of one inch (1") plate or equivalent.

(m) Structural steel and bridge fabricator activities; using 80 tons or less of welding consumables.

(n) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(o) Forced and induced draft cooling tower system not regulated under a NESHAP.

(p) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(q) Heat exchanger cleaning and repair.

(r) Process vessel degassing and cleaning to prepare for internal repairs.

(s) Paved and unpaved roads and parking lots with public access.

(t) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(u) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(v) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(w) On-site fire and emergency response training approved by the department.

(x) Natural gas turbines or reciprocating engines not exceeding 16,000 horsepower.

(y) Stationary fire pumps (diesel-fired).

(z) Purge double block and bleed valves.

(aa) Filter or coalescer media changeout.

Existing Approvals

(a) CP 129-5718-00035, issued on October 30, 1996.

(b) CP 129-7730-00035, Administrative Amendment, issued on April 23, 1997.

(c) CP 129-020-000035, Administrative Amendment, issued on October 24, 1997.

(d) T 129-12235-00035, Significant Source Modification, issued October 20, 2000.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the baghouses controlling the Magnet, Cleaning System, Hull Grinders, Hull Storage Bins, Pellet Mill Hull Feed Hopper, Pellet Storage Bins, Meal Flakers, Meal Screeners, Meal Screening Hopper, Meal Grinders, Mixed Meal Elevator Leg operations, and the cyclones controlling the Cleaning System, Jet Dryers, CCD Dryers, CCC Coolers, Cracking and Dehulling, Hull Screening/Aspiration, Hull Pellet Cooler, DTDC Dryers, DTDC Cooler operations be considered as an integral part of the extraction process.

The primary purpose of the baghouses and cyclones listed above is to separate the product from the air used in the pneumatic conveying systems. Therefore, this equipment is necessary to collect the product and is integral to the extraction process.

IDEM, OAM has evaluated the justifications and agreed that the baghouses and cyclones listed above will be considered as an integral part of the extraction. Therefore, the permitting level will be determined using the potential to emit after the baghouses and cyclones. Operating conditions in the proposed permit will specify that these baghouses and cyclones shall operate at all times when the extraction is in operation.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 2, 1998.

Emission Calculations

The calculations submitted by the applicant for the source modification 129-12235-00035 have been verified and found to be accurate and correct. These calculations were used for the preparation of this permit because they include all equipment at the source and updated capacities and throughputs. These calculations are provided as the following Appendices of this Technical Support Document (TSD):

Appendix A.1.1 - Emission calculations for the facilities based on CP-129-7488 and T-129-12235 as amended to date. (38 pages)

Appendix A.1.2 - Summary of the emission calculations for the facilities based on CP-129-7488 and T-129-12235 as amended to date. (2 pages)

Appendix A.2 - Detailed roadway fugitive dust emission calculations. (2 pages)

All calculations for grain handling and boiler combustion are based on the most current AP-42 Emission Factors (Fifth Edition, Section 9.9.1 revised May 1998 and Section 1.4 revised March 1998, respectively).

These emission calculations also include selected Merchandising House Storage Handling emissions which have been added as a result of the U.S. EPA determination discussed in the "Source Definition" section of this TSD (above).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

The following table reflects the PTE after controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. In this case, the control equipment was permitted in SSM 129-12235-00035 and is therefore federally enforceable. The potential to emit is based on the limited potential to emit in SSM 129-12235-00035.

Pollutant	Potential To Emit (tons/year)
PM	193
PM-10	162
SO_2	0.3
VOC	207
CO	37
NO_x	44

HAP's	Potential To Emit (tons/year)
Hexane	205
TOTAL	205

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM-10 and VOC are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, but since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1999 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM-10	44
SO_2	0
VOC	39
CO	37
NO_x	44

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM *	PM-10	SO_2	VOC	CO	NO_X	HAPs
Truck Receiving and Conveyors (P1)	2.4	2.4	0.0	0.0	0.0	0.0	0.0
Rail/Hopper Bed Truck Receiving (P2) including fugitive particulate emissions	6.6	1.5	0.0	0.0	0.0	0.0	0.0
North Truck Receiving and Conveyors	1.9	1.9	0.0	0.0	0.0	0.0	0.0
P1 & North Truck Receiving PM fugitives	4.7	1.5	-	-	-	-	-
Barge Grain Receiving (P16) Barge Receiving fugitive emissions	3.0 0.5	3.0 0.1	0.0	0.0	0.0	0.0	0.0
Annex Silo Loading (P2A) **	1.4	0.7	0.0	0.0	0.0	0.0	0.0
Merchandizing Silo Loading (P26) **	*4.2*	*2.1*	0.0	0.0	0.0	0.0	0.0
North House Bin Loading **	4.2	2.1	0.0	0.0	0.0	0.0	0.0
North Storage Loadout including fugitive PM emissions **	4.2	1.4	0.0	0.0	0.0	0.0	0.0
Soybean Cleaning (P4)	3.6	3.6	0.0	0.0	0.0	0.0	0.0
Soybean Heater (P21)	included in (P5) Cracking/ Dehulling	0.5	0.0	0.0	0.0	0.0	0.0
Soybean Cracking/Dehulling (P5)	54.3	37.5	0.0	0.0	0.0	0.0	0.0
Soybean Expander (P23)	11.0	11.0	0.0	0.0	0.0	0.0	0.0
Soybean Flaking (P19)	1.7	1.7	0.0	0.0	0.0	0.0	0.0
Mineral Oil Absorber (P13)	0.0	0.0	0.0	39.5***	0.0	0.0	25.6***
DTDC Meal Drying (P10 & P11)	51.7	51.7	0.0	141.0 ***	0.0	0.0	91.5***

	Potential to Emit (tons/year)						
Process/facility	PM *	PM-10	SO_2	VOC	CO	NO_X	HAPs
DTDC Meal Cooling (P12)	4.4	4.4	0.0	24.0***	0.0	0.0	15.6***
Meal Sizing (P9)	1.1	1.1	0.0	0.0	0.0	0.0	0.0
Kaolin Handling (P3)****	0.4	0.4	0.0	0.0	0.0	0.0	0.0
Hull Grinding (P6)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Hull Storage and Handling (P7)	1.5	1.5	0.0	0.0	0.0	0.0	0.0
Hull Pellet Cooling (P8)	22.5	22.5	0.0	0.0	0.0	0.0	0.0
Hull Pellet Storage (P8)	0.7	0.7	0.0	0.0	0.0	0.0	0.0
Meal Storage & Loadout Bins (P20)	1.1	1.1	0.0	0.0	0.0	0.0	0.0
Truck Meal Loadout (P14)	3.0	3.0	0.0	0.0	0.0	0.0	0.0
Barge/Rail Meal Loadout (P15)	3.0	3.0	0.0	0.0	0.0	0.0	0.0
Boiler 1 (P17)	1.1	1.1	0.1	0.8	12.4	14.7	0.0
Boiler 2 (P18)	1.1	1.1	0.1	0.8	12.4	14.7	0.0
Boiler 3 (P18A)	1.1	1.1	0.1	0.8	12.4	14.7	0.0
Roadway Fugitive Dust	0.6	0.1	0.0	0.0	0.0	0.0	0.0
TOTAL LIMITED PTE	**192.9**	**161.8**	**0.3**	**206.9**	**37.2**	**44.2**	**204.5**
	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs

* PM point source emissions in this table (excluding boilers) reflect voluntary emission rate limits requested by Consolidated Grain and Barge Company. (Limited PM10 emissions are based on limited PM emissions and the appropriate PM10/PM ratio based on AP-42 factors or the effect of controls on particle size distribution.)

** Worst case limited PM/PM10 point source emissions assume that all beans put through the plant could be moved through the merchandising house or north receiving area and the annex storage prior to processing. The north receiving area was chosen as the worst case path due to higher emissions from that area. All beans will pass through the annex storage. Therefore, point source emissions from the merchandising house are not included in the limited PTE total. The allowable emissions limit for PM/PM10 was requested by the source.

*** VOC point source emissions in this table are based on the hexane limitations requested by the source. HAP emissions are based on the normal hexane (HAP) composition of the commercial hexane used by the source.

**** The allowable emission limit for PM/PM10 was requested by the source.

(a) Fugitive particulate matter emissions have been included in this summary because there is an applicable New Source Performance Standard (Subpart DD) that was in effect on August 7, 1980.

(b) Fugitive VOC/HAP emissions (hexane) totaling 283.8 tons per year have not been included in this table because, for the purposes of PSD review, they are not included because neither VOCs nor HAPs are regulated pollutants in the NSPS which is stated as applicable in (b), above.

County Attainment Status

The source is located in Posey County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Posey County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Posey County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for PSD, 326 IAC 2-2 and 40 CFR 52.21.

(c) This type of operation is not one of the 28 listed source categories under 326 IAC 2-2, but since it does meet the definition of the New Source Performance Standard Subpart DD (Standards of Performance for Grain Elevators) source category as described in the Federal Rule Applicability section, the fugitive PM emissions are counted toward determination of PSD applicability.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Federal Rule Applicability

(a) This source is subject to the New Source Performance Standard 326 IAC 12, 40 CFR Part 60, Subpart DD (Standards of Performance for Grain Elevators).

Based on guidance from U.S. EPA Region 5 (a letter dated May 27, 1999, from George Czerniak) which states that a portion of the storage area at the nearby Merchandising House should be associated with the soybean oil extraction plant for the purpose of determining applicability of the New Source Performance Standard (NSPS) Subpart DD, this soybean oil extraction plant has a permanent storage capacity of one million bushels or more. Therefore, the provisions of the NSPS for grain elevators as defined in 326 IAC 12 and 40 CFR 60.301 are applicable.

Pursuant to 40 CFR 60.302(b), (c), and (d):

> On and after the date on which the performance test required to be conducted by Sec. 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:

(1) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).

(2) Exhibits greater than 0 percent opacity.

On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any fugitive emission from:

(1) Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.

(2) Any grain handling operation which exhibits greater than 0 percent opacity.

(3) Any truck loading station which exhibits greater than 10 percent opacity.

(4) Any barge or ship loading station which exhibits greater than 20 percent opacity.

The owner or operator of any barge or ship unloading station shall operate as follows:

(1) The unloading leg shall be enclosed from the top (including the receiving hopper) to the center line of the bottom pulley and ventilation to a control device shall be maintained on both sides of the leg and the grain receiving hopper.

(2) The total rate of air ventilated shall be at least 32.1 actual cubic meters per cubic meter of grain handling capacity (ca. 40 ft³/bu).

(3) Rather than meet the requirements of paragraphs (d)(1) and (2) of this section the owner or operator may use other methods of emission control if it is demonstrated to the Administrator's satisfaction that they would reduce emissions of particulate matter to the same level or less.

(b) This source is subject to the New Source Performance Standard, 326 IAC 12, 40 CFR 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units).

The three (3) 33.7 million (MM)Btu per hour boilers are subject to this rule because each of the boilers have a heat input capacity of greater than 10 MMBtu per hour. Pursuant to this rule, the company shall keep records of the fuel usage of the boilers.

(c) This source is subject to the New Source Performance Standard, 326 IAC 12, 40 CFR 60, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels).

The two (2) 14,000 gallon hexane storage tanks are subject to this rule because the hexane storage capacity is greater than 40 cubic meters. The four (4) 932 cubic meter soybean oil storage tanks are also subject to this rule because of the storage capacities and because the soybean oil containing 400 ppm hexane has a vapor pressure of 0.0712 kPa. Pursuant to this rule, the company shall keep the dimensions and capacities of the tanks readily available for the life of the tanks. The tanks are exempt from all other requirements of this rule because their capacities are greater than 151 cubic meters and their maximum true vapor pressures are less than 3.5 KPa, in accordance with 40 CFR 60.110b(c).

One (1) 8,000 gallon hexane work tank and one (1) 1,000 gallon dust suppression soybean/ mineral oil storage tank are not subject to this rule because the storage capacities are less than 40 cubic meters.

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source. 40 CFR 63 Subpart T does not apply to the degreaser because it does not use any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent.

(e) This source is not subject to the provisions of 40 CFR 64, Compliance Assurance Monitoring. In order for this rule to apply, a specific emissions unit must meet three criteria for a given pollutant: 1) the unit is subject to an emission limitation or standard for the applicable regulated air pollutant, 2) the unit uses a control device to achieve compliance with any such emission limitation or standard, and, 3) the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount required for a source to be classified as a major source. For this source, no specific emissions unit has emissions greater than one hundred (100) tons per year, the major source threshold for criteria pollutants, of PM10, SO_2, CO, or NO_x. Only one emission unit, the DTDC meal dryer (P10 and P11), has emissions of VOC greater than one hundred (100) tons per year. However, although the DTDC meal dryer is subject to an emission limitation under 326 IAC 8-1-6, it does not use a control device to achieve compliance with this regulation. Therefore, 40 CFR 64 is not applicable. Three (3) emission units, the mineral oil absorber (P13), the DTDC meal dryer (P10 and P11), and the DTDC meal cooler (P12), have emissions of a single HAP (hexane) greater than ten (10) tons per year. However, there are no applicable emissions standards for hexane, and therefore, 40 CFR 64 is not applicable.

State Rule Applicability

326 IAC 2-2 Prevention of Significant Deterioration (PSD)

This source is considered a minor source under PSD. This is not one of the 28 listed source categories; however, fugitive PM emissions were included in the PSD determination because there is an applicable New Source Performance Standard (Subpart DD) that was in effect on August 7,1980. Fugitive VOC/HAP emissions totaling 283.8 tons per year were not included in the PSD determination because neither VOCs nor HAPs are regulated pollutants in any applicable NSPS or NESHAP.

326 IAC 2-4.1-1 (HAPs major sources: new source toxics control)

Although this source is a major source of HAPs, it was originally permitted to construct prior to the July 27, 1997, applicability date of this rule and prior modifications have not constituted a reconstruction; therefore, 326 IAC 2-4.1 is not applicable.

326 IAC 2-6 (Emission Reporting)

These facilities are subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 100 tons per year of PM, PM10, and VOC. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 5-1-2 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this approval:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating)

The three (3) 33.7 MMBtu per hour natural gas fired boilers are subject to this rule. Pursuant to this rule, the particulate matter (PM) emissions for these boilers shall be limited to 0.328 pounds per million BTU heat input as shown below:

Pt = 1.09/Q^0.26 where: Pt = lbs PM emitted/mmBtu heat input
= 1.09/101^0.26 Q = total source mmBtu/hr heat input
= 0.328 lb PM/mmBtu

Based on potential emissions calculated using AP-42 emission factors, these boilers can comply with 326 IAC 6-2-4.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the facilities listed below shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Facilities to which 326 IAC 6-3-2 applies:
Truck Receiving and Conveyors (P1), Rail/Hopper Bed Truck Receiving (P2), North Truck Receiving and Conveyors, Barge Grain Receiving (P16), Annex Silo Loading (P2A), Merchandizing Silo Loading (P26), North House Bin Loading, North House Storage Loadout, Soybean Cleaning (P4), Soybean Heater (P21), Soybean Cracking/Dehulling (P5), Soybean Expander (P23), Soybean Flaking (P19), DTDC Meal Drying (P10 & P11), DTDC Meal Cooling (P12), Meal Sizing (P9), Kaolin Handling (P3), Hull Grinding (P6), Hull Storage Loading (P7), Hull Storage Unloading (P7), Hull Pellet Cooling (P8), Hull Pellet Storage (P8), Meal Storage & Loadout Bins (P20), Truck Meal Loadout (P14), Barge/Rail Meal Loadout (P15)

The control equipment shall be in operation at all times these facilities are in operation. The process operations will be in compliance with this rule because the potential controlled PM emissions are less than the calculated allowable PM emissions. According to this rule, the company is “allowed” to emit up to its calculated allowable PM emissions. However, Consolidated Grain and Barge Co. has requested facility specific PM limits which will keep the aggregated source emissions less than the overall Prevention of Significant Deterioration (PSD) threshold level of 250 tons of PM per year and make the provisions of PSD (326 IAC 2-2, 40 CFR 52.21) not applicable. Compliance with these facility specific limits will demonstrate compliance with 326 IAC 6-3-2.

326 IAC 8-1-6 (VOC Rules - General Reduction Requirements for New Facilities)

Since this source is not regulated by other provisions of 326 IAC 8, VOC emissions from the soybean oil extractor plant are subject to this rule. Pursuant to this rule, these emissions must be controlled using the Best Available Control Technology (BACT).

Pursuant to CP 129-7488-00035, the OAM determined that BACT for this plant shall consist of the following:

Facility	BACT	VOC (Hexane) Emission Limit including upset conditions *
The extraction and distillation process including the oil extractor, desolventizer, evaporators, solvent separator and vent system	Mineral Oil Absorber System	0.084 lb/ton soybean processed
Meal dryers	None	0.30 lb/ton soybean processed
Meal cooler	None	0.051 lb/ton soybean processed

Pursuant to Source Modification 129-12235-000035, the company shall assure compliance with the above VOC emission limits by performing monitoring and recordkeeping such that the following limits are not exceeded:

(a) The hexane usage shall be limited to 0.225 gallons per ton of soybean crushed *, and

(b) The soybeans processed shall be limited to 940,240 tons of soybeans processed per twelve consecutive months.

* Note: The hexane use limits in the table and (a),above, are based on the original limits established in CP129-7488-00035 which corresponded to the previous maximum crush capacity of 882,877 tons per year. The limits were adjusted in source modification 129-12235-00035 to result in the same overall hexane usage at the higher crush capacity.

The company shall continue to minimize hexane emission losses by training operators and supervisors of the plant. At the end of each calendar year, the company shall submit to the IDEM a progress report of efforts taken to reduce hexane emissions from the plant.

326 IAC 8-3-2 (Cold Cleaner Operations)

The cold cleaning operations are subject to the requirements of 326 IAC 8-3-2. This rule requires that the cleaner be equipped with a cover and a facility for draining cleaned parts as well as that waste solvent be stored only in covered containers.

326 IAC 8-3-5 (Cold Cleaner Operation and Control)

The cold cleaning operation is subject to the requirements of 326 IAC 8-3-5(a). This rule requires that the owner and operator of a cold cleaner degreaser facility shall ensure that the degreaser is equipped with a cover that must be designed so that it can be easily operated with one (1) hand if certain conditions exist. The degreaser must be equipped with a facility for draining cleaned articles.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a

result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

1. The baghouses for the North Truck Receiving, P1 Truck Receiving/Receiving Leg, Barge Receiving/Conveyors, Kaolin Receiving Bins, Magnet, Cleaning System, Hull Grinders, Hull Storage Bins, Pellet Mill Hull Feed Hopper, Pellet Storage Bins, Meal Flakers, Meal Screeners, Meal Screening Hopper, Meal Grinders, Mixed Meal Elevator Leg, Truck Loadout, Rail Loadout, and Barge Loadout have applicable compliance monitoring conditions as specified below:

   (a) Daily visible emissions notations of the baghouse stack exhausts shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance response plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

   (b) The Permittee shall record the total static pressure drop across the baghouses at least once daily when the associated emission unit is in operation. Unless operated under conditions for which the Compliance response plan specifies otherwise, the pressure drop across each baghouse shall be maintained within the range of 3.0 to 9.0 inches of water or a range established during the latest stack test. The Compliance response plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

   (c) An inspection shall be performed each calender quarter of all bags controlling the North Truck Receiving, P1 Truck Receiving/Receiving Leg, Barge Receiving/Conveyors, Kaolin Receiving Bins, Truck Loadout, Rail Loadout, and Barge Loadout operations when venting to the atmosphere. All defective bags shall be replaced.

   (d) An inspection shall be performed at least annually of all bags controlling the Magnet, Cleaning System, Hull Grinders, Hull Storage Bins, Pellet Mill Hull Feed Hopper, Pellet Storage Bins, Meal Flakers, Meal Screeners, Meal Screening Hopper, Meal Grinders, Mixed Meal Elevator Leg, when venting to the atmosphere. All defective bags shall be replaced.

These monitoring conditions are necessary because the baghouses for the above listed facilities must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations), 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70).

2. The cyclones for the Cleaning System, Jet Dryers, CCD Dryers, CCC Coolers, Cracking and Dehulling, Hull Screening/Aspiration, Hull Pellet Cooler, DTDC Dryers, DTDC Cooler have applicable compliance monitoring conditions as specified below:

   (a) Daily visible emissions notations of the cyclone stack exhausts shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance response plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

   (b) An inspection shall be performed at least annually of all cyclones controlling operations when venting to the atmosphere.

   These monitoring conditions are necessary because the cyclones for the above listed facilities must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations), 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70).

3. Daily visible emissions notations of the H.B. Truck and Rail receiving pits shall be performed from outside the receiving area enclosure during normal daylight operations when rail car or truck unloading is occurring. These notations should be taken from a position approximately perpendicular to the prevailing wind direction which allows the trained employee to see the leeward side of the structure. during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance response plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

   This monitoring condition is necessary because the facility must be operated properly to ensure compliance with 326 IAC 6-3 (Process Operations), 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70).

4. The soybean oil extraction operations have applicable compliance monitoring conditions as specified below:

   (a) The inlet vacuum pressure of the vapor stream to the absorber shall not exceed 10 inches of water and the flow rate of the mineral oil through the absorber shall not be less than 15 gallons per minute. When the process is in operation, an electronic data management system (EDMS) shall record the instantaneous inlet vacuum pressure and flow rate on a frequency of not less than every 15 minutes.

(b) The temperature of the mineral oil entering the absorber shall be kept in a range of 70 to 105 degrees Fahrenheit (°F). When the process is in operation, an electronic data management system (EDMS) shall record the instantaneous temperature on a frequency of not less than every 15 minutes.

(c) The temperature of the soybean oil entering the mineral-oil-stripping column shall not be less than 200 degrees Fahrenheit (°F) for adequate stripping of the absorbed hexane from the oil. When the process is in operation, an EDMS shall record the instantaneous temperature on a frequency of not less than every 15 minutes.

The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when the parameter readings are outside of the above mentioned ranges. In the event that a breakdown of the EDMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameters should be implemented at intervals no less frequent than every 2 hours.

These monitoring conditions are necessary because the absorber and stripping column for the extraction processes must operate properly to ensure compliance with 326 IAC 8-1-6 (BACT), 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. These pollutants are listed as air toxics on the OAM Construction Permit Application Form Y.

(a) This proposed new source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows:

Air Toxic Pollutant	Modeled Concentration (ug/m^3)	% of OSHA PEL
Hexane	939	0.52

The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA).

(b) The applicant has been notified in writing that the air toxic emissions exceed the major source applicability levels stated by Section 112 of the Clean Air Act Amendments, and that it would be beneficial, both to the applicant and to the public, for the applicant to take steps to reduce or eliminate these air toxic emissions.

(c) See Appendix A for detailed hexane emission calculations.

Conclusion

The operation of this soybean extraction plant shall be subject to the conditions of the attached proposed Part 70 Permit No. T 129-10111-00035.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Part 70 Operating Permit

Source Name:	Consolidated Grain and Barge Company
Source Location:	Bluff Road Mount Vernon, Indiana 47620
County:	Posey
SIC Code:	2075
Operation Permit No.:	T129-10111-00035
Permit Reviewer:	ERG/KH

On December 20, 2000, the Office of Air Quality (OAQ) had a notice published in the Mount Vernon Democrat, Mount Vernon, Indiana, stating that Consolidated Grain and Barge Company had applied for a Part 70 Operating Permit to operate a soybean extraction plant. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Entire Document

As of January 1, 2001, the Office of Air Management is now known as the Office of Air Quality. The permit and this addendum have been updated to reflect this name change.

CG&B **Emissions Estimate** April 2000

Note: The allowable emissions of each process unit as described below

TRUCK ONLY / RAIL RECEIVING PROCESS

Truck Only Receiving P1

PM Emission Factor	0.18	lb/ton	(Table 9.9.1-1, Straight Truck Receiving AP-42, 5/98)
PM10 Emission Factor	0.059	lb/ton	
PM10/PM ratio	0.328		
Unloading rate/hour	600	tons	
Unloading rate/year	940,240	tons (crush capacity)	
Capture efficiency	95	%	

Potential PM emissions due to soybean unloading, excluding fugitives = Emission factor * process rate* capture effy/100

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*(capture effy/100)
= 102.6 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year)/(2000 lb/ton)*(capture effy/100)
= 80.4 tons/year

Potential PM10 emissions due to soybean unloading, excluding fugitives = Emission factor * process rate*(capture eff/100)

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*(capture eff/100)
= 33.6 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year/(2000 lb/ton)*(capture effy/100)
= 26.4 tons/year

Potential fugitive PM emissions due to soybean unloading = Emission factor * pr

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*((100-eff'y)/100)
= 5.4 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year)*((100-eff'y)/100)/(2000 lb/ton)
= 4.2 tons/year

Potential fugitive PM10 emissions due to soybean unloading = Emission factor * pr

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*((100-eff'y)/100)
= 1.8 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year)*((100-eff'y/100))/(2000 lb/ton)
= 1.4 tons/year

Maximum controlled PM emissions from truck only receiving and receiving legs filter (C-1) = baghouse outlet grain loading * gas flow rate

Truck only filter	13,000	cfm	
Outlet loading	0.005	gr/cfm	11/11/98 compliance test: 0.000365 gr/cfm
PM10/PM Ratio	1		

a. Max Hourly = (outlet loading gr/scf)*(air flow cfm)*(60 min/hour)/(7000 grains/lb)
= 0.56 pounds/hour

b. Max Yearly = max hourly* 8,760 hrs/yr / 2000 lb/ton
2.44 tons/year

Maximum controlled PM10 emissions from truck only receiving and receiving legs filter (C-1)	=	baghouse outlet grain loading * gas flow rate		
a. Max Hourly	=	(outlet loading gr/scf)*(air flow cfm)*(60 min/hour)/(7000 grains/lb)		
	=	0.56	pounds/hour	
b. Max Yearly	=	max hourly* (8,760hrs/yr) /(2000 lb/ton)		
		2.44	tons/year	

Rail/H.B.Truck Receiving P2

(choke unloading only - railcar and H.B. truck)

PM Emission Factor	0.035	lb/ton	(Table 9.9.1-1, Truck Receiving AP-42, 5/98)
PM10 Emission Factor	0.0078	lb/ton	
PM10/PM ratio	0.223		
Unloading rate/hour	540	tons	
Unloading rate/year	940,240	tons	
Capture efficiency	60	% due to shed enclosure	

Potential PM emissions due to soybean unloading	=	Emission factor * process rate		
a. Max Hourly	=	(lb/ton)*(unload rate ton/hour)		
	=	18.9	lbs/hour	
b. Max Yearly	=	(lb/ton)*(unload rate ton/year)/(2000 lb/ton)		
	=	16.5	tons/year	
unloading	=	Emission factor * process rate		
a. Max Hourly	=	(lb/ton)*(unload rate ton/hour)		
	=	4.2	lbs/hour	
b. Max Yearly	=	(lb/ton)*(unload rate ton/year)/(2000 lb/ton)		
	=	3.7	tons/year	
Maximum controlled PM emissions due to soybean unloading	=	Emission factor * process rate * (100-Capture efficiency)/100		
a. Max Hourly	=	(lb/ton)*(unload rate ton/hour)*((100-eff.)/100)		
	=	7.6	lbs/hour	
b. Max Yearly	=	(lb/ton)*(unload rate ton/year)*((100-eff.)/100)/(2000 lb/ton)		
	=	6.6	tons/year	
Maximum controlled PM10 emissions due to soybean unloading	=	Emission factor * process rate * (100-Capture efficiency)/100		
a. Max Hourly	=	(lb/ton)*(unload rate ton/hour)*((100-eff'y)/100)		
	=	1.7	lbs/hour	
b. Max Yearly	=	(lb/ton)*(unload rate ton/year)*((100-eff'y)/100)/(2000 lb/ton)		
	=	1.5	tons/year	

North Truck Only Receiving P24

PM Emission Factor	0.18	lb/ton	(Table 9.9.1-1, Straight Truck Receiving AP-42, 5/98)
PM10 Emission Factor	0.059	lb/ton	
PM10/PM ratio	0.328		
Unloading rate/hour	360	tons	
Unloading rate/year	108,000	tons	
Capture efficiency	95	%	

Bushel/hour	12000	
Beans	3,600,000	bushels
Corn/Wheat	-	bushels
Total	3,600,000	bushels

bushels depending upon market conditions.

Potential PM emissions due to soybean unloading, excluding fugitives = Emission factor * process rate* capture effy/100

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*(capture eff./100)
= 64.8 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year)/(2000 lb/ton)*(capture eff./100)
= 9.7 tons/year

Potential PM10 emissions due to soybean unloading, excluding fugitives = Emission factor * process rate*(capture eff/100)

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*(capture eff/100)
= 21.2 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year/(2000 lb/ton)*(capture effy/100)
= 3.2 tons/year

Potential fugitive PM emissions due to soybean unloading = Emission factor * pr

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*((100-eff'.)/100)
= 3.2 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year)*((100-eff'.)/100)/(2000 lb/ton)
= 0.5 tons/year

Potential fugitive PM10 emissions due to soybean unloading = Emission factor * pr

a. Max Hourly = (lb/ton)*(unload rate ton/hour)*((100-eff'.)/100)
= 1.1 lbs/hour

b. Max Yearly = (lb/ton)*(unload rate ton/year)*((100-eff'./100))/(2000 lb/ton)
= 0.2 tons/year

Maximum controlled PM emissions from truck only receiving filter (C-24) = baghouse outlet grain loading * gas flow rate

Truck only filter	10,000	cfm	
Outlet loading	0.005	gr/scf	11/11/98 compliance test on similar source: 0.000365 gr/scf
PM10/PM Ratio	1		

a. Max Hourly = (outlet loading gr/scf)*(air flow cfm)*(60 min/hour)/(7000 grains/lb)
= 0.43 pounds/hour

b. Max Yearly = max hourly* 8,760 hrs/yr / 2000 lb/ton
1.88 tons/year

Maximum controlled PM10 emissions from north truck receiving filter = baghouse outlet grain loading * gas flow rate

a. Max Hourly = (outlet loading gr/scf)*(air flow cfm)*(60 min/hour)/(7000 grains/lb)
= 0.43 pounds/hour

b. Max Yearly = max hourly* (8,760hrs/yr) /(2000 lb/ton)
1.88 tons/year

Allowable PM emissions from Rule 326 IAC 6-3-2 for all truck/rail receiving process	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(all truck/rail receiving)0.11 - 40	
	=	83.0	lbs/hour
	=	lb/hr*(hr/yr)/(lb/ton)	
	=	363	tons/year

Requested:

State allowable PM emissions from the truck only receiving (P1) process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	2.44	tons/year
	=	0.56	pounds /hour

PM emission limit basis #1: The process rate is limited by annual throughput (source-accepted permit limit) and the rated hourly capacity of the conveying equipment. However, the actual hourly rate is lower and is reduced by many factors (grain type and quality in the The emissions estimate basis would be modified from these presumptions (with requisite request to modify the allowable permitted emissions) if an emissions test would reveal the grain loading to be in excess of 0.005

Requested:

State allowable PM emissions from the rail/H.B. truck (P2) receiving process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	6.6	tons/year
	=	7.6	pounds /hour

PM emission limit basis #2: Hourly emission estimates are based on the maximum hourly equipment capacity, the accepted AP-42 emission factor (lb/ton), the best engineering judgement of the enclosure pollutant capture efficiency. Annual emissions

Requested:

State allowable PM emissions from the north truck receiving (P24) process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	1.88	tons/year
	=	0.43	pounds /hour

PM emission limit basis: Same as PM emission basis #1.

Grain Barge Receiving P16

The bean barge receiving system includes: crane unloading hopper aspirated to the barge meal loadout baghouse (C16), an enclosed conveyor replacing the barge belt, an oil application system for dust control, 2 enclosed bucket elevators, and 3 enclosed belt/mass flow conveyors. The system discharges to the truck/rail receiving leg. The barge unloading emission factor of interim AP-42, Table 9.9.1-2, overestimates both potential and controlled emissions for the proposed system. An emission factor development document, PB 229-996: Emission Control In The Grain And Feed Industry, Volume 1, includes a section on barge unloading (copy enclosed). A statement is made that ""Dust emitted during barge and ship unloading is relatively small in quantity in comparison with railroad car or truck unloading. Also, the statement is made that "It appears that little dust was generated in the barge by the bucket elevator(s)." The proposed system uses a clamshell versus elevator legs. Legs generate more dust that a clamshell due to the churning action of the legs. Also, the emissions measured were the input to the baghouse aspirating the leg receiving hopper and the unloading system conveyor transfer points. Combining all these factors, it is estimated that potential emissions from the proposed unloading system will be 10% of the measured emissions: 0.21 lb/ton. Also, due to improvements in capture efficiency due to hood design improvements, it is estimated that the capture efficiency will be 95%.

PM Emission Factor	0.021	lb/ton
PM10 Emission Factor	0.0053	lb/ton
PM10/PM ratio	0.25	
Unloading rate/hour	600	tons
Unloading rate/year	940,240	tons
Capture efficiency	95	%

Potential PM emissions due to soybean unloading excluding fugitive emissions = Emission factor * process rate * Capture efficiency/100

a. Max Hourly = (lb/ton)*(rate ton/hour)*(effy/100)
= 12.0 lbs/hour

b. Max Yearly = (lb/ton)*(rate ton/year)*(effy/100)/(2000 lb/ton)
= 9.4 tons/year

Potential PM10 emissions due to soybean unloading excluding fugitive emissions = Emission factor * process rate * Capture efficiency/100

a. Max Hourly = (lb/ton)*(rate ton/hour)*(effy/100)
= 3.0 lbs/hour

b. Max Yearly = (lb/ton)*(rate ton/year)*(effy/100)/(2000 lb/ton)
= 2.3 tons/year

Potential Fugitive PM emissions due to soybean unloading = Emission factor * process rate * (100-Capture efficiency)/100

a. Max Hourly = (lb/ton)*(rate ton/hour)*((100-effy)/100)
= 0.6 lbs/hour

b. Max Yearly = (lb/ton)*(rate ton/year)*((100-effy)/100)/(2000 lb/ton)
= 0.5 tons/year

Potential Fugitive PM10 emissions due to soybean unloading = Emission factor * process rate * (100-Capture efficiency)/100

a. Max Hourly = (lb/ton)*(rate ton/hour)*((100-effy)/100)
= 0.16 lbs/hour

b. Max Yearly = (lb/ton)*(rate ton/year)*(effy/100)/(2000 lb/ton)
= 0.12 tons/year

Maximum controlled PM emissions from barge unloading	=	baghouse outlet grain loading * gas flow rate	
Filter	16,000	scfm	
Outlet loading	0.005	gr/scfm	
a. Max Hourly	=	(0.005 gr/scf)* 16,000 scfm *60 min/hour /7000 grains/lb	
	=	0.7	pounds/hour
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton	
		3.0	tons/year
Maximum controlled PM10 emissions from barge unloading	=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly	=	(0.005 gr/scf)*16,000 cfm *60 min/hour /7000 grains/lb	
	=	0.7	pounds/hour
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
		3.0	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for the barge receiving system	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(upload rate ton/hr)0.11 - 40	
	=	71.2	lbs/hour
	=	312	tons/year
Potential PM emissions from the barge receiving systems	=	barge receiving PM	
	=	9.4	tons/year
Requested:			
State allowable PM emissions from the barge receiving system for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	3.00	tons/year
	=	0.69	lbs/hour

PM emission limit basis: Same as PM emission basis #1.

SOYBEAN STORAGE HANDLING PROCESS

Note: All handling equipment is totally enclosed. Therefore, potential emissions from the same are zero.

Soybean Grain Storage Silos / Bins

Silo loading - ANNEX (P2A):

PM Emission Factor	0.03	lb/ton	(Table 9.9.1-3, Scale bin vent, Draft AP-42, May 1994)
PM10 Emission Factor	0.015	lb/ton	
PM10/PM ratio	0.5		
Loading rate/hour	1140	tons	
Loading rate/year	940,240	tons	
Mineral oil control efficiency	90	%	(Mineral oil + settling chamber effect of silo)

Potential PM emissions due to soybean bin loading	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(load rate ton/hour)	
	=	34.2	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	14.1	tons/year

loading	=	Potential PM Emissions * PM10/PM ratio	
a. Max Hourly	=	max hrly lb/hour * PM10/PM ratio	
	=	17.1	lbs/hour
b. Max Yearly	=	max yrly ton/yr * PM10/PM ratio	
	=	7.05	tons/year
Maximum controlled PM emissions from storage bin loading	=	Potential PM emissions * (100 - control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	3.4	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	1.4	tons/year
Maximum controlled PM10 emissions from storage bin loading	=	Potential PM10 emissions * (100- mineral oil control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	1.71	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.7	tons/year

Silo loading (P26) - MERCHANDIZING HOUSE:

PM Emission Factor	0.03	lb/ton	(Table 9.9.1-3, Scale bin vent, Draft AP-42, May 1994)
PM10 Emission Factor	0.015	lb/ton	
PM10/PM ratio	0.5		
Loading rate/hour	1340	tons - maximum	
Loading rate/year	141,036	tons	Max. % of crush: 15.0%
Settling chamber effect of silo	70	%	

Potential PM emissions due to soybean bin loading	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(ton/hour)	
	=	40.2	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	2.1	tons/year
loading	=	Potential PM Emissions * PM10/PM ratio	
a. Max Hourly	=	lb/hour * PM10/PM ratio	
	=	20.1	lbs/hour
b. Max Yearly	=	ton/yr * PM10/PM ratio	
	=	1.06	tons/year

Maximum controlled PM emissions from storage bin loading	=	Potential PM emissions * (100 - control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	12.1	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.6	tons/year
Maximum controlled PM10 emissions from storage bin loading	=	Potential PM10 emissions * (100- control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	6.0	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.3	tons/year

Bin loading - NORTH HOUSE (P27):

PM Emission Factor	0.03	lb/ton	(Table 9.9.1-3, Scale bin vent, Draft AP-42, May 1994)
PM10 Emission Factor	0.015	lb/ton	
PM10/PM ratio	0.5		
Loading rate/hour	360	tons - maximum	
Loading rate/year	108,000	tons	
Settling chamber effect of silo	70	%	

Potential PM emissions due to soybean bin loading	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(ton/hour)	
	=	10.8	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	1.6	tons/year
loading	=	Potential PM Emissions * PM10/PM ratio	
a. Max Hourly	=	lb/hour * PM10/PM ratio	
	=	5.4	lbs/hour
b. Max Yearly	=	ton/yr * PM10/PM ratio	
	=	0.81	tons/year
Maximum controlled PM emissions from storage bin loading	=	Potential PM emissions * (100 - control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	3.2	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.5	tons/year

Maximum controlled PM10 emissions from storage bin loading	=	Potential PM10 emissions * (100- control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	1.6	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.2	tons/year
	=	55.0* P0.11 - 40	lbs/hour
Allowable PM emissions from Rule 326 IAC 6-3-2 for all storage handling process			
	=	55.0*(all storage loading)0.11 - 40	
	=	91.9	lbs/hour
	=	lb/hr*(hr/yr)/(lb/ton)	
	=	402	tons/year
Requested: storage handling process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	1.4	tons/year
	=	3.4	pounds/hour
		PM emission limit basis:	Same as PM emission basis #2. Limit will be 0.003 lb/ton bean **handled, equivalent to 1.4 TPY PM based on production limit.**
Requested: merchandizing storage handling process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	0.6	tons/year
	=	12.1	pounds/hour
		PM emission limit basis:	Same as PM emission basis #2. Limit will be 0.009 lb/ton bean **handled, equivalent to 4.2 TPY PM based on production limit.**
Requested: storage handling process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	0.5	tons/year
	=	3.2	pounds/hour
		PM emission limit basis:	Same as PM emission basis #2. Limit will be 0.009 lb/ton bean **handled, equivalent to 4.2 TPY PM based on production limit.**

Bin loadout - NORTH HOUSE (P25):

PM Emission Factor	0.086	lb/ton	(Table 9.9.1-1, Truck grain shipping, AP-42, May 1998)
PM10 Emission Factor	0.029	lb/ton	
PM10/PM ratio	0.34		
Unloading rate/hour	360	tons - maximum	
Unloading rate/year	108,000	tons	
Choke loadout & oil application	90	%	

Potential PM emissions due to soybean loadout	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(ton/hour)	
	=	31.0	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	4.6	tons/year

Potential PM10 emissions due to soybean loadout	=	Potential PM Emissions * PM10/PM ratio	
a. Max Hourly	=	lb/hour * PM10/PM ratio	
	=	10.4	lbs/hour
b. Max Yearly	=	ton/yr * PM10/PM ratio	
	=	1.6	tons/year
Maximum controlled PM emissions from storage loadout	=	Potential PM emissions * (100 - control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	3.1	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.5	tons/year
Maximum controlled PM10 emissions from storage loadout	=	Potential PM10 emissions * (100- control efficiency)/100	
a. Max Hourly	=	lb/hr * (100-effy)/100	
	=	1.0	lbs/hour
b. Max Yearly	=	ton/yr * (100-effy)/100	
	=	0.2	tons/year
	=	55.0* P0.11 - 40	lbs/hour
Allowable PM emissions from Rule 326 IAC 6-3-2 for the storage loadout process			
	=	55.0*(north house ton/hr)0.11 - 40	
	=	65.1	lbs/hour
	=	lb/hr*(hr/yr)/(lb/ton)	
	=	285	tons/year
Requested: storage loadout process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	0.5	tons/year
	=	3.1	pounds/hour

PM emission limit basis: Same as PM emission basis #2. Limit will be 0.009 lb/ton bean **handled, equivalent to 4.2 TPY PM based on production limit.**

SOYBEAN CLEANING PROCESS

Grain Cleaning P4

Grain Cleaner System

PM Emission Factor	0.075	lb/ton	(AP-42,Section 9.9.1, Grain Cleaning)
PM10 Emission Factor	0.075	lb/ton	
PM10/PM ratio	1.000		
Rate/hour	115	tons (max.)	
Rate/year	940,240	tons (crush capacity)	
Capture efficiency	100	%	

Potential PM emissions for soybean cleaner system	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(ton/hour)	
	=	8.63	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	35.3	tons/year

system		=	Emission factor * process rate	
	a. Max Hourly	=	(lb/ton)*(ton/hour)	
		=	8.63	lbs/hour
	b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
		=	35.3	tons/year
Maximum controlled PM emissions from feed conveyor, cleaner and scale system		=	baghouse outlet grain loading * gas flow rate	
	Filter	19,000	cfm	
	Outlet loading	0.005	gr/scf	11/12/98 compliance test - meal loadout: 0.0011 gr/scf
	a. Max Hourly	=	(gr/scf)* cfm *60 min/hour /7000 grains/lb	
		=	0.814	pounds/hour
	b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton	
			3.57	tons/year
Maximum controlled PM10 emissions from feed conveyor, cleaner and scale system		=	baghouse outlet grain loading * gas flow rate	
	a. Max Hourly	=	(gr/scf) * cfm * 60 min/hour / 7000 grains/lb	
		=	0.814	pounds/hour
	b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
			3.57	tons/year
		=	55.0* P0.11 - 40	lbs/hour
Allowable PM emissions from Rule 326 IAC 6-3-2 for the cleaning process				
		=	55.0*(rate/hr)0.11 - 40	
		=	52.7	lbs/hour
		=	lb/hr*(hr/yr)/(lb/ton)	
		=	231	tons/year
Potential PM emissions from the cleaning process		=	conveyor PM + cleaning system PM	
		=	35.3	tons/year
State allowable PM emissions from the cleaning process for the purpose of permitting		=	Construction Permit PM emissions Limits	
		=	3.57	tons/year
		=	0.814	pounds/hour

PM emission limit basis #3: The hourly emission estimates are based on the presumed maximum exhaust grain loading (0.005 gr/acfm) of the baghouse control and the design air flow (acfm) of the exhaust fan. The emissions estimate basis would be modified from these presumptions (with

Soybean Heater P21

Process rate	230,000	lb/hr
	115	ton/hour (Max.)
	940,240	ton/year
PM emissions	0.06	pounds per hour (Preliminary emission test - 4/3/98)
PM emissions	0.008	pounds per hour (Initial compliance emission test - 11/10/98)
PM emissions	0.12	pounds per hour (used for emission calculations)
PM10/PM factor	1.00	

These emissions are emitted from the source without any control.

Potential PM emissions for soybean heater (soybean dryer) = 0.12 pounds per hour

a. Max Hourly = 0.12 lbs/hour

b. Max Yearly = pounds/hour * 8760 hours/year * ton/2000 pounds
= 0.53 tons/year

Potential PM10 emissions for soybean heater	=	Emission factor * process rate		
a. Max Hourly	=	Potential PM * PM10/PM factor		
	=	0.12	lbs/hour	
b. Max Yearly	=	Potential PM * PM10/PM factor		
	=	0.53	tons/year	
Allowable PM emissions from Rule 326 IAC 6-3-2 for the soybean heater	=	55.0* P0.11 - 40		lbs/hour
	=	55.0*(rate ton/hr)0.11 - 40		
	=	52.7	lbs/hour	
	=	231	tons/year	
Potential PM emissions from the soybean heater	=	0.53	tons/year	

State allowable PM emissions from the soybean heater for the purpose of permitting are included in the hot dehulling permitted emissions.

SOYBEAN DRYING / CRACKING / DEHULLING PROCESS

Soybean Cracking & Dehulling P5

PM Emission Factor	3.6	lb/ton	(AP-42, Section 9.11.1, Table 4.5)	(Vegetable Oil Processing)
PM10 Emission Factor	2.48	lb/ton		
PM10/PM ratio	0.69		From compliance tests: maximum % of PM of filter vs total:	69%
Process rate	115	ton/hour (Max.)		
Process rate	940,240	ton/year		

Potential PM emissions for soybean cracking & dehulling	=	Emission factor * process rate		
a. Max Hourly	=	(lb/ton * ton/hour)		
	=	414	lbs/hour	
b. Max Yearly	=	lb/ton * ton/year / (lb/ton)		
	=	1,692	tons/year	
Potential PM10 emissions for soybean cracking & dehulling	=	Emission factor * process rate		
a. Max Hourly	=	Potential PM * PM10/PM factor		
	=	285.7	lbs/hour	
b. Max Yearly	=	Potential PM * PM10/PM factor		
	=	1,168	tons/year	

Manufacturer (Crown Co.) guarantee on PM emissions from the bean heater, dryers, crackers, dehulling and hull refining is 12.4 lb/hour at 64,330 acfm at 1480F, 18% relative humidity. This guarantee determines the maximum controlled PM emissions. This emission rate is guaranteed based on information available to the vendor.
Initial compliance testing conducted 11/13/98: 39,667 acfm, 6.02 lb/hr

Maximum controlled PM emissions for soybean cracking & dehulling	=	12.4	lbs/hour
a. Max Hourly	=	12.4	lbs/hour
b. Max Yearly	=	lb/hr * (hr/yr)/ lb/ton	
		54.3	tons/year
Maximum controlled PM10 emissions for the soybean cracking & dehulling	=	Potential PM * PM10/PM factor	
a. Max Hourly	=	lb/hr * PM10/PM ratio	
		8.6	lbs/hour
b. Max Yearly	=	ton/yr * PM10/PM ratio	
		37.5	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for the cracking & dehulling process	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(rate per hr)0.11 - 40	
	=	52.7	lbs/hour
	=	lb/hr*(hr/yr)/(lb/ton)	
	=	231	tons/year
Potential PM emissions from the cracking & dehulling process	=	cracking & dehulling system PM	
	=	54.3	tons/year
State allowable PM emissions from the cracking & dehulling process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	54.3	tons/year
	=	12.4	lbs/hour

PM emission limit basis #4: Emission estimates are based on the manufacturer's emissions warrenty (lb/hour) and continuous operation. The warrenty

SOYBEAN FLAKING PROCESS

Flaking Process P19

PM Emission Factor	0.37	lb/ton	(AP-42, Section 9.11.1, Table 4.5)	
PM10 Emission Factor	0.23	lb/ton	(Vegetable Oil Processing)	
PM10/PM ratio	0.61	0.35/0.57	from AIRS 3/90	
Rate/hour	209,705	pounds	% of scale weight:	91.176%
Rate/hour	104.9	tons (Max.)		
Rate/year	857,273	tons		
Capture efficiency	100	%		

Potential PM emissions for soybean flaking	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(ton/hour)	
	=	38.8	lbs/hour
b. Max Yearly	=	lb/hr*(ton/year)/(2000 lb/ton)	
	=	158.6	tons/year

Potential PM10 emissions for soybean flaking	=	Emission factor * process rate			
a. Max Hourly	=	PM10/PM ratio * lb/hr			
	=	23.8	lbs/hour		
b. Max Yearly	=	(PM10/PM ratio)*(rate ton/year)			
	=	97.4	tons/year		
Maximum controlled PM emissions from flaking	=	baghouse outlet grain loading * gas flow rate			
Filter	9,000	dscfm	determined from 11/3/99 compliance test on flaker: dscfm		2074
Outlet loading	0.005	gr/dscfm	determined from 11/3/99 compliance test on flaker: gr/sdcfm		0.0018
a. Max Hourly	=	(0.005 gr/scf)* 9,000 scfm *60 min/hour /7000 grains/lb			
	=	0.39	pounds/hour		
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton			
		1.69	tons/year		
Maximum controlled PM10 emissions from flaking system	=	baghouse outlet grain loading * gas flow rate			
a. Max Hourly	=	(0.005 gr/scf)*9,000 cfm *60 min/hour /7000 grains/lb			
	=	0.39	pounds/hour		
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)			
		1.69	tons/year		
Allowable PM emissions from Rule 326 IAC 6-3-2 for the flaking process	=	55.0* P0.11 - 40	lbs/hour		
	=	55.0*(rate ton/hr)0.11 - 40			
	=	51.8	lbs/hour		
	=	227	tons/year		
State allowable PM emissions from the flaking process for the purpose of permitting	=	Construction Permit PM emissions Limits			
	=	1.69	tons/year		
	=	0.39	pounds/hour		

PM emission limit basis: Same as PM emission basis #3.

SOYBEAN EXPANDER P23

PM Emission Factor	0.5	lb/ton	(R.L. Henricks engineering judgment -	
PM10 Emission Factor	0.500	lb/ton	emissions will be similar to bean heater:	
PM10/PM ratio	1.00		soybean oil at ~18% in extruded material.)	
Process rate	50	ton/hour	System capacity:	1200 ton/day
Process rate	438,000	ton/year		
Cyclone Efficiency	90	%		

Potential PM emissions for soybean expander	=	Emission factor * process rate		
a. Max Hourly	=	(lb/ton * ton/hour)		
	=	25.00	lbs/hour	
b. Max Yearly	=	lb/ton * ton/year / (2000 lb/ton)		
	=	109.5	tons/year	

Potential PM10 emissions for soybean expander	=	Emission factor * process rate	
a. Max Hourly	=	Potential PM * PM10/PM factor	
	=	25.00	lbs/hour
b. Max Yearly	=	Potential PM * PM10/PM factor	
	=	109.5	tons/year
Maximum controlled PM emissions for soybean expander	=	Emission factor * process rate * (1-Cyclone Eff./100)	
a. Max Hourly	=	(lb/ton * ton/hour)*(1-Cyclone Eff./100)	
	=	2.50	lbs/hour
b. Max Yearly	=	lb/ton * ton/year / (2000 lb/ton) * (1-Cyclone Eff./100)	
	=	10.95	tons/year
Maximum controlled PM10 emissions for soybean expander	=	Emission factor * process rate * (1-Cyclone Eff./100)	
a. Max Hourly	=	Potential PM * PM10/PM factor	
	=	2.50	lbs/hour
b. Max Yearly	=	Potential PM * PM10/PM factor	
	=	10.95	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for expander process	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(rate ton/hr)0.11 - 40	
	=	44.6	lbs/hour
	=	195	tons/year
Requested: State allowable PM emissions from expander process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	10.95	tons/year
	=	2.50	pounds/hour

PM emission limit basis #5: Emission estimates are based on the maximum hourly equipment capacity, the results of an emission test on similar equipment, the best

DTDC MEAL DRYING PROCESS

DTDC Dryer #1 (P10)

PM Emission Factor	1.8	lb/ton	(AP-42, Section 9.11.1, Table 4.5)	
PM10 Emission Factor	1.8	lb/ton	(Vegetable Oil Processing)	
PM10/PM ratio	1.00			
Rate/hour	166,863	pounds	% of scale weight	72.549%
Rate/hour	83.4	tons		
Rate/year	682,135	tons		
Air volume	8,979	dscfm	determined from 11/4/99 compliance test on meal dryer	
PM concentration	0.07	grains/dscf	determined from 11/4/99 compliance test on meal dryer	
PM emision rate	5.76	pounds/hr	determined from 11/4/99 compliance test on meal dryer	
PM emision rate	10.00	pounds/hr	used for emissions calculations	
Cyclone efficiency	95.24	%	determined from 11/4/99 compliance test on meal dryer	
Cyclone efficiency	95.0	%	used for emissions calculations	

Potential PM emissions for meal drying process	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hr)	
	=	150.2	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	614	tons/year

Potential PM10 emissions for meal drying process	=	Emission factor * process rate	
a. Max Hourly	=	max PM hrly * PM10/PM ratio	
	=	150.2	lbs/hour
b. Max Yearly	=	max PM yrly * PM10/PM ratio	
	=	614	tons/year
Maximum controlled PM emissions from meal drying process	=	PM concentration * Air Flow	
a. Max Hourly	=	(gr/dscf) * (lb/7000 gr) * (air flow dscfm) * 60 min/hr	
	=	10.00	pounds/hour
b. Max Yearly	=	(Max hrly rate) * 8760/2000	
		43.8	tons/year
Maximum controlled PM10 emissions from meal drying process	=	PM concentration * PM10/PM ratio * Air Flow	
a. Max Hourly	=	(gr/dscf) * PM10/PM ratio * (lb/7000 gr) * (air flow dscfm) * 60 min/hr	
	=	10.00	pounds/hour
b. Max Yearly	=	(Max hrly rate) * 8760/2000	
		43.8	tons/year

DTDC Dryer #2 (P11)

PM Emission Factor	1.8	lb/ton	(AP-42, Section 9.11.1, Table 4.5)	
PM10 Emission Factor	1.8	lb/ton	(Vegetable Oil Processing)	
PM10/PM ratio	1.00			
Rate/hour	166,863	pounds	% of scale weight	72.549%
Rate/hour	83.4	tons		
Rate/year	682,135	tons		
Air volume	8,788	dscfm	determined from 11/4/99 compliance test on meal dryer	
PM concentration	0.0017	grains/dscf	determined from 11/4/99 compliance test on meal dryer	
PM emision rate	0.131	pounds/hr	determined from 11/4/99 compliance test on meal dryer	
PM emision rate	1.8	pounds/hr	used for emissions calculations	
Cyclone efficiency	99.9	%	determined from 11/4/99 compliance test on meal dryer	
Cyclone efficiency	99.0	%	used for emissions calculations	

Potential PM emissions for meal drying process	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hr)	
	=	150.2	lbs/hour
b. Max Yearly	=	(lb/ton)*(ton/year)/(2000 lb/ton)	
	=	614	tons/year
Potential PM10 emissions for meal drying process	=	Emission factor * process rate	
a. Max Hourly	=	max PM hrly * PM10/PM ratio	
	=	150.2	lbs/hour
b. Max Yearly	=	max PM yrly * PM10/PM ratio	
	=	614	tons/year
Maximum controlled PM emissions from meal drying process	=	PM concentration * Air Flow	
a. Max Hourly	=	(gr/dscf) * (lb/7000 gr) * (air flow dscfm) * 60 min/hr	
	=	1.80	pounds/hour
b. Max Yearly	=	(Max hrly rate) * 8760/2000	
		7.88	tons/year

Maximum controlled PM10 emissions from meal drying process	=	PM concentration * PM10/PM ratio * Air Flow	
a. Max Hourly	=	(gr/dscf) * PM10/PM ratio * (lb/7000 gr) * (air flow dscfm) * 60 min/hr	
	=	1.80	pounds/hour
b. Max Yearly	=	(Max hrly rate) * 8760/2000	
		7.88	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for the meal drying process	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(rate ton/hr)0.11 - 40	
	=	49.5	lbs/hour
	=	ton/hr*8760/2000	
	=	217	tons/year
State allowable PM emissions from the meal drying process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	51.7	tons/year
	=	11.8	pounds/hr

PM emission limit basis #6: Emission estimates are based on the maximum hourly equipment capacity, the results of an

DTDC MEAL COOLING PROCESS

DTDC Cooler P12

PM Emission Factor	1.9	lb/ton	(AP-42, Section 9.11.1, Table 4.5)
PM10 Emission Factor	1.9	lb/ton	(Vegetable Oil Processing)
PM10/PM ratio	1.00		
Rate/hour	166,863	pounds	% of scale weight 72.549%
Rate/hour	83.4	tons	
Rate/year	682,135	tons	
Air volume	6,751	dscfm	determined from 11/12/98 compliance test on meal cooler
PM concentration	0.0007	grains/dscf	determined from 11/12/98 compliance test on meal cooler
PM emision rate	0.041	pounds/hr	determined from 11/12/98 compliance test on meal cooler
PM emision rate	1.0	pounds/hr	used for emissions calculations
Cyclone efficiency	99.97	%	determined from 11/12/98 compliance test on meal cooler
Cyclone efficiency	99.0	%	used for emissions calculations

Potential PM emissions for meal cooling process	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	159	lbs/hour
b. Max Yearly	=	(lb/ton)*(rate ton/year)/(2000 lb/ton)	
	=	648	tons/year
Potential PM10 emissions for meal cooling process	=	Emission factor * process rate	
a. Max Hourly	=	PM hrly rate * PM10/PM ratio	
	=	158.5	lbs/hour
b. Max Yearly	=	PM yrly rate * PM10/PM ratio	
	=	648.0	tons/year

Maximum controlled PM emissions from meal cooling process	=	PM concentration * Air Flow	
a. Max Hourly	=	(gr/scfm) * (lb/7000 gr) * (air flow dscfm) * 60 min/hr	
	=	1.0	pounds/hour
b. Max Yearly	=	(Max hrly rate) * 8760/2000	
		4.4	tons/year
Maximum controlled PM10 emissions from meal cooling process	=	PM concentration * PM10/PM ratio * Air Flow	
a. Max Hourly	=	(gr/scfm) * PM10/PM ratio * (lb/7000 gr) * (air flow dscfm) * 60 min/hr	
	=	1.0	pounds/hour
b. Max Yearly	=	(Max hrly rate) * 8760/2000	
		4.4	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for meal cooling process	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(rate ton/hr)0.11 - 40	
	=	49.5	lbs/hour
	=	217	tons/year
Current:			
State allowable PM emissions from the meal cooling process for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	54.8	tons/year
	=	12.5	pounds/hr
Requested:			
State allowable PM emissions from the meal cooling process for the purpose of permitting	=	Permit PM emissions Limits (requested)	
	=	4.4	tons/year
	=	1.0	pounds/hr

PM emission limit basis: Same as PM emission basis #6.

MEAL SIZING PROCESS

Meal Sizing P9
Emissions from the meal leg are included in the sizing emissions since both are aspirated by a common baghouse.

PM Emission Factor	3.4	lb/ton	(AP-42, Section 9.11.1, Table 4.5)	
PM10 Emission Factor	2.08	lb/ton	(Vegetable Oil Processing)	
PM10/PM ratio	0.611	(1.1/1.8)	from AIRS 3/90	
Rate/hour	166,863	pounds		
Rate/hour	83.4	tons	% of scale weight	72.549%
Rate/year	682,135	tons		
Capture efficiency	100	%		

Potential PM emissions for meal sizing	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	283.7	lbs/hour
b. Max Yearly	=	(lb/ton)*(rate ton/yr)/(2000 lb/ton)	
	=	1,160	tons/year
Potential PM10 emissions for meal sizing	=	Emission factor * process rate	
a. Max Hourly	=	(PM max hrly lb/hr) * PM10/PM ratio	
	=	173.4	lbs/hour
b. Max Yearly	=	(PM max yhrly ton/yr) * PM10/PM ratio	
	=	709	tons/year

Maximum controlled PM emissions from meal	=	baghouse outlet grain loading * gas flow rate		
Filter	4,637	dscfm	detrmined from 11/10/98 compliance test	
Outlet loading	0.0065	gr/dscf	determined from 11/10/98 compliance test	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb		
	=	0.26	pounds/hour	
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton		
		1.13	tons/year	
Maximum controlled PM10 emissions from meal	=	baghouse outlet grain loading * gas flow rate		
a. Max Hourly	=	(0.0065 gr/scf)*4637 cfm *60 min/hour /7000 grains/lb		
	=	0.26	pounds/hour	
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)		
		1.13	tons/year	
Allowable PM emissions from Rule 326 IAC 6-3-2 for meal sizing	=	55.0* P0.11 - 40	lbs/hour	
	=	55.0*(rate ton/hr)0.11 - 40		
	=	49.5	lbs/hour	
	=	217	tons/year	
State allowable PM emissions from meal sizing for the purpose of permitting	=	Construction Permit PM emissions Limits		
	=	1.13	tons/year	
	=	0.26	pounds/hr	

PM emission limit basis: Same as PM emission basis #6.

KAOLIN HANDLING PROCESS

Kaolin Bin P3

PM Emission Factor	1.4	lb/ton	(AP-42, Section 9.9.7-1, Starch Storage Bin)
PM10 Emission Factor	1.4	lb/ton	
Rate/hour	60,000	pounds	
Rate/hour	30	tons	
Rate/year	0.5	% of meal tons	
Meal rate	682,135	tons/year	
Filter	2,400	scfm	
Outlet loading	0.005	gr/scfm	

Potential PM emissions for Kaolin bin	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	42.0	lbs/hour
b. Max Yearly	=	(lb/ton)*(0.5/100)*(meal rate ton/hr)(8760 hrs/yr)/(2000 lb/ton)	
	=	2.4	tons/year
Potential PM10 emissions for Kaolin bin	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	42.0	lbs/hour
b. Max Yearly	=	(lb/ton)*(0.5/100)(meal rate ton/year)/(2000 lb/ton)	
	=	2.4	tons/year

Maximum controlled PM emissions from Kaolin bin	=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly	=	(gr/scf) * (scfm) * 60 min/hour / 7000 grains/lb	
	=	0.103	pounds/hour
b. Max Yearly	=	(lb/hr)*((0.5/100)*(meal rate ton/yr))/30(ton/hr)/(2000 lb/ton)	
		0.006	tons/year
Maximum controlled PM10 emissions from Kaolin	=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly	=	(gr/scf)* (scfm) * 60 min/hour / 7000 grains/lb	
	=	0.103	pounds/hour
b. Max Yearly	=	(lb/hr)*((0.5/100)*(meal rate ton/yr))/30(ton/hr)/(2000 lb/ton)	
		0.006	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for Kaolin bin	=	4.10* P0.67	lbs/hour
	=	4.10*(rate ton/hr) 0.67	
	=	40	lbs/hour
	=	175	tons/year
State allowable PM emissions from Kaolin bin for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	0.451	tons/year
	=	0.103	pounds/hr
Requested: State allowable PM emissions from Kaolin bin for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	0.451	tons/year
	=	0.103	pounds/hr

PM emission limit basis: Same as PM emission basis #3.

HULL GRINDING PROCESS

Hull grinding P6

PM Emission Factor	2.0	lb/ton	(AP-42, Section 9.11.1, Table 4.5)
PM10 Emission Factor	1.2	lb/ton	(Vegetable Oil Processing)
PM10/PM ratio	0.600	(1.2/2.0)	
Rate/hour	16,100	pounds	(7% of crush))
Rate/hour	8.05	tons	
Rate/year	65,817	tons	

Potential PM emissions for hull grinding	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	16.1	lbs/hour
b. Max Yearly	=	(lb/ton)*(rate ton/year)/(2000 lb/ton)	
	=	65.8	tons/year
Potential PM10 emissions for hull grinding	=	Emission factor * process rate	
a. Max Hourly	=	(PM max hrly) * (PM10/PM ratio)	
	=	9.7	lbs/hour
b. Max Yearly	=	(PM max yrly) * (PM10/PM ratio)	
	=	39.5	tons/year

Maximum controlled PM emissions from hull	=	baghouse outlet grain loading * gas flow rate	
Filter	750	dscfm	
Outlet loading	0.005	gr/dscf	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	0.032	pounds/hour
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton	
		0.14	tons/year
Maximum controlled PM10 emissions from hull grinding	=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	0.032	pounds/hour
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
		0.14	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for hull grinding	=	4.10*P0.67	lbs/hour
	=	4.10*(rate ton/hr)0.67	
	=	16.6	lbs/hour
	=	73	tons/year
Allowable PM emissions from hull grinding for permitting	=	Construction Permit PM emissions Limits	
	=	0.14	tons/year
	=	0.032	pounds/hour

PM emission limit basis: Same as PM emission basis #3.

HULL STORAGE AND HANDLING PROCESS

Hull storage bins P7 & P7A

Loading P7

PM Emission Factor	0.03	lb/ton	(May '94 draft AP-42, Section 9.9.1-3)
PM10 Emission Factor	0.015	lb/ton	
PM10/PM ratio	0.5		
Rate/hour	20,000	pounds	
Rate/hour	10	tons	
Rate/year	65,817	tons	
Capture efficiency	100	%	

Potential PM emissions	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	0.30	lbs/hour
b. Max Yearly	=	(lb/ton)*(8760 hr/year)/(2000 lb/ton)	
	=	1.3	tons/year
Potential PM10 emissions	=	Emission factor * process rate	
a. Max Hourly	=	(PM max hrly) * (PM10/PM ratio)	
	=	0.15	lbs/hour
b. Max Yearly	=	(PM max yrly) * (PM10/PM ratio)	
	=	0.7	tons/year

Maximum controlled PM emissions		=	baghouse outlet grain loading * gas flow rate	
	Filter	4,000	dscfm	
	Outlet loading	0.005	gr/dscf	
a. Max Hourly		=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
		=	0.171	pounds/hour
b. Max Yearly		=	max hourly * 8,760hrs/yr / 2000 lb/ton	
			0.75	tons/year
Maximum controlled PM10 emissions		=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly		=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
		=	0.171	pounds/hour
b. Max Yearly		=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
			0.75	tons/year

Unloading P7A

PM Emission Factor	0.03	lb/ton	(May '94 draft AP-42, Section 9.9.1-3)
PM10 Emission Factor	0.015	lb/ton	
PM10/PM ratio	0.5		
Rate/hour	30,000	pounds	
Rate/hour	15	tons	
Rate/year	65,817	tons	
Capture efficiency	100	%	

Potential PM emissions	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	0.45	lbs/hour
b. Max Yearly	=	(lb/ton)*(rate ton/hour)/2000	
	=	1.0	tons/year
Potential PM10 emissions	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	0.23	lbs/hour
b. Max Yearly	=	(lb/ton)*(rate ton/yr)/(2000 lb/ton)	
	=	0.5	tons/year
Maximum controlled PM emissions	=	baghouse outlet grain loading * gas flow rate	

Filter	4,000	dscfm	
Outlet loading	0.005	gr/dscf	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	0.171	pounds/hour
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton	
		0.75	tons/year

Maximum controlled PM10 emissions	=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	0.171	pounds/hour
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
		0.75	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for hull storage bins	=	4.10*P0.67	lbs/hour
	=	4.10*(rate ton/hr)0.67	
	=	19.2	lbs/hour
	=	84	tons/year
Allowable PM emissions from hull storage bins for permitting	=	Construction Permit PM emissions Limits	
	=	1.5	tons/year
	=	0.342	pounds/hour

PM emission limit basis: Same as PM emission basis #3.

HULL PELLET COOLING PROCESS

Hull Pellet Cooling P8

PM Emission Factor	1.0	lb/ton	(T. P. Singha engineering judgment)
PM10 Emission Factor	0.5	lb/ton	
PM10/PM ratio	0.5		
Rate/hour	30,000	pounds	
Rate/hour	15	tons	
Rate/year	65,817	tons	
Capture efficiency	100	%	

Potential PM emissions	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	15	lbs/hour
b. Max Yearly	=	(max hrly)*(8760 hr/year)/(2000 lb/ton)	
	=	65.7	tons/year
Potential PM10 emissions	=	Emission factor * process rate	
a. Max Hourly	=	(PM max hrly) * (PM10/PM ratio)	
	=	7.5	lbs/hour
b. Max Yearly	=	(PM max yrly) * (PM10/PM ratio)	
	=	32.9	tons/year
Maximum controlled PM emissions	=	cyclone outlet grain loading * gas flow rate	

Cyclone	12,000	dscfm
Outlet loading	0.05	gr/dscf

a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	5.1	pounds/hour
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton	
		22.5	tons/year

Maximum controlled PM10 emissions	=	cyclone outlet grain loading * gas flow rate	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	5.1	pounds/hour
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
		22.5	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for hull pellet cooling	=	4.10*P0.67	lbs/hour
	=	4.10*(rate ton/hr)0.67	
	=	25.2	lbs/hour
	=	110	tons/year
State allowable PM emissions from hull pellet cooling for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	22.5	tons/year
	=	5.1	pounds/hour

PM emission limit basis #7: The hourly emission estimates are based on the presumed maximum exhaust grain loading (0.005 gr/acfm) of the cyclone control and the design air flow (acfm) of the exhaust fan. The emissions estimate basis would be modified from

HULL PELLET STORAGE HANDLING PROCESS

Hull pellet storage bins P8A

PM Emission Factor	0.03	lb/ton	(May '94 draft AP-42, Section 9.9.1-3)
PM10 Emission Factor	0.015	lb/ton	
PM10/PM ratio	0.5		
Rate/hour	30,000	pounds	
	15	tons	
Rate/year	65,817	tons	
Capture efficiency	100	%	

Potential PM emissions	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	0.45	lbs/hour
b. Max Yearly	=	(max hrly)*(8760 hr/year)/(2000 lb/ton)	
	=	2.0	tons/year
Potential PM10 emissions	=	Emission factor * process rate	
a. Max Hourly	=	(PM max hrly) * (PM10/PM ratio)	
	=	0.23	lbs/hour
b. Max Yearly	=	(PM max yrly) * (PM10/PM ratio)	
	=	1.0	tons/year

Maximum controlled PM emissions		=	baghouse outlet grain loading * gas flow rate	
	Filter	4,000	dscfm	
	Outlet loading	0.005	gr/dscf	
a. Max Hourly		=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
		=	0.171	pounds/hour
b. Max Yearly		=	max hourly * 8,760hrs/yr / 2000 lb/ton	
			0.75	tons/year
Maximum controlled PM10 emissions		=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly		=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
		=	0.171	pounds/hour
b. Max Yearly		=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
			0.75	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for hull pellet storage bins		=	4.10*P0.67	lbs/hour
		=	4.10*(rate)0.67	
		=	25.2	lbs/hour
		=	110	tons/year
State allowable PM emissions from hull pellet storage bins for the purpose of permitting		=	Construction Permit PM emissions Limits	
		=	0.75	tons/year
		=	0.171	pounds/hour

PM emission limit basis: Same as PM emission basis #3.

BARGE RECEIVING / MEAL STORAGE AND LOADOUT PROCESS

Meal storage & meal loadout P20, P14, & P15
The meal conveyors are all totally enclosed conveyors.

PM Emission Factor	0.03	lb/ton	(May '94 draft AP-42, Section 9.9.1-3)
PM10 Emission Factor	0.0044	lb/ton	
PM10/PM ratio	0.148	(.04/0.27)	from AIRS 3/90
Process Rate/hour	167,697	pounds	(Includes 0.5% Kaolin)
	83.8	tons	
Loadout Rate/hour	746,968	pounds	
Rate/year	685,545	tons	(Includes 0.5% Kaolin)
Capture efficiency	100	%	

Meal storage bins P20

Potential PM emissions for meal storage bins	=	Emission factor * process rate	
a. Max Hourly	=	(lb/ton)*(rate ton/hour)	
	=	2.52	lbs/hour
b. Max Yearly	=	(lb/ton)*(rate ton/year)/(2000 lb/ton)	
	=	10.3	tons/year
Potential PM10 emissions for meal storage bins	=	Emission factor * process rate	
a. Max Hourly	=	(PM max hrly) * PM10/PM ratio	
	=	0.37	lbs/hour
b. Max Yearly	=	(PM max yrly) * PM10/PM ratio	
	=	1.5	tons/year

Meal loadout bins P20

Potential PM emissions for meal loadout bins	=	Emission factor * process rate		
a. Max Hourly	=	(lb/ton)*(loadout rate lb/hr)/2000		
	=	11.2	lbs/hour	
b. Max Yearly	=	(lb/ton)*(loadout rate ton/yr)/2000		
	=	10.3	tons/year	
Potential PM10 emissions for meal loadout bins	=	Emission factor * process rate		
a. Max Hourly	=	(PM max hrly) * PM10/PM ratio		
	=	1.66	lbs/hour	
b. Max Yearly	=	(PM max hrly) * PM10/PM ratio		
	=	1.5	tons/year	
Maximum controlled PM emissions from meal storage & loadout bins	=	baghouse outlet grain loading * gas flow rate		
Filter	6000	scfm		
Outlet loading	0.005	gr/scfm	11/12/98 compliance test - meal loadout: 0.0011 gr/cfm	
a. Max Hourly	=	(gr/scf)* (scfm) * 60 min/hour / 7000 grains/lb		
	=	0.257	pounds/hour	
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton		
		1.13	tons/year	
Maximum controlled PM10 emissions from meal storage & loadout bins	=	baghouse outlet grain loading * gas flow rate		
a. Max Hourly	=	(gr/scf)* (scfm) * 60 min/hour / 7000 grains/lb		
	=	0.257	pounds/hour	
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)		
		1.13	tons/year	
Allowable PM emissions from Rule 326 IAC 6-3-2 for the meal storage & meal loadout bins	=	55.0* P0.11 - 40	lbs/hour	
	=	55.0*(loadout rate ton/hr)0.11 - 40		
	=	65.5	lbs/hour	
	=	287	tons/year	
Potential PM emissions from the meal storage & meal loadout bins	=	meal storage + meal loadout PM		
	=	20.6	tons/year	
Requested:				
State allowable PM emissions from the meal storage & meal loadout bins for the purpose of	=	Construction Permit PM emissions Limits		
	=	1.13	tons/year	
	=	0.257	lbs/hour	

PM emission limit basis: Same as PM emission basis #3.

Meal loadout: truck, rail, or barge P14 & P15

PM Emission Factor	0.27	lb/ton	(AP-42, Section 9.11.1, Table 4.5)
PM10 Emission Factor	0.04	lb/ton	(Vegetable Oil Processing)
PM10/PM ratio	0.148	(0.04/0.27)	
Rate/hour	767,697	pounds	(production + 300 tph from storage)
Rate/hour	383.8	tons	
Rate/year	685,545	tons	

Potential PM emissions for meal loadout	=	Emission factor * process rate		
a. Max Hourly	=	(lb/ton)*(rate ton/hour)		
	=	104	lbs/hour	
b. Max Yearly	=	(lb/ton)*(rate ton/yr)/2000		
	=	92.5	tons/year	

Potential PM10 emissions for meal loadout	=	Emission factor * process rate		
a. Max Hourly	=	(PM max hrly) * PM10/PM ratio		
	=	15.4	lbs/hour	
b. Max Yearly	=	(PM max yrly) * PM10/PM ratio		
	=	13.7	tons/year	

Meal truck loadout P14

Maximum controlled PM emissions from meal truck loadout	=	baghouse outlet grain loading * gas flow rate		
Filter	16,000	scfm		
Outlet loading	0.005	gr/scf		11/12/98 compliance test - meal loadout: 0.0011 gr/cfm
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb		
	=	0.7	pounds/hour	
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton		
		3.0	tons/year	
Maximum controlled PM10 emissions from meal truck loadout	=	baghouse outlet grain loading * gas flow rate		
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb		
	=	0.7	pounds/hour	
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)		
		3.0	tons/year	
Allowable PM emissions from Rule 326 IAC 6-3-2 for the truck meal loadout system	=	55.0* P0.11 - 40	lbs/hour	
	=	55.0*(loadout rate ton/hr)0.11 - 40		
	=	65.8	lbs/hour	
	=	288	tons/year	
Potential PM emissions from the truck meal loadout system	=	meal loadout PM		
	=	92.5	tons/year	
Requested:				
State allowable PM emissions from the truck meal loadout system for the purpose of permitting	=	Construction Permit PM emissions Limits		
	=	3.0	tons/year	
	=	0.7	lbs/hour	

PM emission limit basis: Same as PM emission basis #3.

Meal rail or barge loadout P15

Maximum controlled PM emissions from meal barge & rail loadout	=	baghouse outlet grain loading * gas flow rate		
Filter	16,000	scfm		11/12/98 compliance test - meal loadout: 17,488 dscfm
Outlet loading	0.005	gr/scfm		11/12/98 compliance test - meal loadout: 0.0011 gr/cfm
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb		
	=	0.7	pounds/hour	
b. Max Yearly	=	max hourly * 8,760hrs/yr / 2000 lb/ton		
		3.0	tons/year	

Maximum controlled PM10 emissions from meal barge & rail loadout	=	baghouse outlet grain loading * gas flow rate	
a. Max Hourly	=	(gr/dscf) * (dscfm) * 60 min/hour / 7000 grains/lb	
	=	0.7	pounds/hour
b. Max Yearly	=	max hourly * (8,760hrs/yr) /(2000 lb/ton)	
		3.0	tons/year
Allowable PM emissions from Rule 326 IAC 6-3-2 for the barge and rail meal loadout systems	=	55.0* P0.11 - 40	lbs/hour
	=	55.0*(loadout rate ton/hr)0.11 - 40	
	=	65.8	lbs/hour
	=	288	tons/year
Potential PM emissions from the barge & rail meal loadout systems	=	meal loadout PM	
	=	92.5	tons/year
Requested:			
State allowable PM emissions from the barge & rail meal loadout systems for the purpose of permitting	=	Construction Permit PM emissions Limits	
	=	3.0	tons/year
	=	0.7	lbs/hour

PM emission limit basis: Same as PM emission basis #3.

HEATING UNITS

Boilers P17, P18 & P18A

Emission factors for natural gas combustion are from AP42, Tables 1.4-1,-2,-3, revision 03/98.

Heat input/boiler	33.659	Million BTU/hr
Number of boilers	3	
VOC emission factor	48	% of TOC factor
TOC emission factor	5.8	lb/106 cf n-gas

Unit	PM (lb/unit)	PM10 (lb/unit)	SO2 (lb/unit)	NOx (lb/unit)	VOC (lb/unit)	CO (lb/unit)
million cu. ft.	7.6	7.6	0.6	100	5.5	84

Potential natural gas usage	=	3*33.659 million BTU/hr * (8760 hr/year)/(1000 BTU/cu ft)	
	=	884.6	Million cu ft/year

Fuel Use Mcf/yr	PM ton/year	PM10 ton/year	SO2 ton/year	NOx ton/year	VOC ton/year	CO ton/year
884.6	3.36	3.36	0.27	44.2	2.43	37.2

Allowable PM emissions from Rule 326 IAC 6-2-4 for the heating units.	=	1.09/Q^0.26	pounds PM / MM BTU/hr
	=	0.328	pounds PM / MM BTU/hr
	=	11.05	Pounds / hour
	=	48.41	Tons / year

Hexane (VOC) emissions

Expected hexane disappearance (VOC use):		0.19	gal hexane /ton of crush.
		1.05	lb hexane /ton
		5.6	lb hexane /gallon

Requested:
State allowable overall hexane useage from the vegetable oil extraction system for the purpose of permitting = 0.225 pounds hexane /ton of soybeans crushed.

Emission limit basis: BACT analysis
solvent use rate
reduced by ratio
of new process

Process design	=	2760	tons/day
	=	115	tons/hr (Max.)
Base process limit on		365	day/yr operation
Process limit	=	940,240	tons/year
Normal operation	=	365	day/yr operation

Solvent disappearance:

Hexane inventory loss	=	crush tons/year x gal loss/ton x 5.6 lb/gal x 1 ton/2000 lb
	=	494 tons/year

Soybean Oil Extraction Volatile Organic Compounds (VOC) Emissions

Hexane is lost from the extraction and desolventizing operations in soybean extraction plants in many areas. These include:

Point sources

a) Vent system gas during normal operation
b) Desolventized meal dryer 1 and 2
c) Desolventized meal cooler
d) Hexane storage tank

Fugitive emissions

e) Plant start-up / shutdowns
f) Plant upsets
g) General - equipment failures/leaks
h) Solvent samples

Bound in product/by-product

i) Desolventized flakes (meal)
j) Extracted soybean oil
k) Process wastewater

Area 1 - Main gas vent (Mineral Oil Absorber) P13

A. Normal operating conditions

Mineral Oil Absorber discharge maximum	50	ft3/min air at 900F	11/11/98 compliance test
Mineral Oil Absorber discharge normal	50	% LEL (LEL = 1.2%)	39 cfm @ 75 F
Crush/Process rate normal	115.000	ton/hr	21 % LEL
			1.32 lb/hr

Inlet to absorber	=	(cfm)*(1 lb air/15 cf)*(0.54 lb hexane/0.43 lb air)*60 min/hr)
	=	251 lb/hr
Outlet from absorber	=	(cfm)*(1 lb air/5 cf)*(60 min/hr)*1.2%*50% LEL
	=	3.60 lb/hr
	=	(outlet lb/hr)*(8760 hr/yr) / (2000 lb/ton)
	=	15.8 ton/yr

Hexane emissions during normal operation	=	Emission rate/processing rate	
	=	(outlet lb/hr)/(process rate ton/hr)	
	=	0.031	lb/ton crush
Efficiency of absorber	=	(Inlet - Outlet)/Inlet * 100%	
		98.6	%
Requested:			
State allowable hexane emissions from the oil extractor, meal desolventizer, oil desolventizer, solvent separator, and vent system for the purposes of permitting	=	0.084	pounds hexane /ton of soybeans crushed.
		Emission limit basis:	BACT analysis solvent loss rate reduced by ratio of new process

B. Upset Operating Conditions

Upset frequency (average)	15	times/year
Upset duration (average)	4	hours/occurrence
Air flow rate (maximum)	161	cfm
Hexane outlet concentration (maximum)	100	% LEL

Outlet from absorber (maximum)	=	(cfm)*(100%)*(1.2%)*(1 lb/15 cf)*(60 min/hour)	
	=	7.7	lb/hr
	=	(lb/hr)*(hr/year)/(2000 lb/ton)	
	=	0.23	ton/year
Hexane emissions - upset	=	Emission rate/processing rate	
	=	(ton/yr)*(2000 lb/ton)/(process ton/yr)	
	=	0.0005	lb/ton crush
Total absorber hexane emissions	=	Normal + Upset emissions	
		16.0	ton/year
Hexane emissions during normal operation and upset conditions	=	Emission rate/processing rate	
	=	(loss ton/yr)*(2000 lb/ton)/(crush ton/year)	
	=	0.034	lb/ton crush

Area 2 - Process Waste Water

Normal operating conditions occur at all times, no upsets.
All process waste water is recycled.

Water flow	0	lb/hr
Hexane content	0	ppm

Area 3 - Extracted Soybean Oil

Normal operating conditions occur at all times

Weight % oil in beans	18	%	1998 measurements
Hexane in finished oil	100	ppm	40 ppm

Maximum hexane lost in oil	=	(maximum hexane lost in oil/106)*(weight % oil in beans)*(ton beans/hr)*(2000 lb/ton)	
	=	4.1	lb/hr
	=	(maximum hexane lost in oil/106)*(weight % oil in beans)*(ton beans/yr)	
	=	16.9	ton/year
Hexane lost in oil	=	(loss lb/hr)/(ton crush/hr)	
	=	0.036	lb/ton crush

Area 4 - Dryer One flake desolventizing P10

A. Normal operating conditions

			1999 compliance tests	
Flakes in beans	73	% weight	5.36	lb/hour
Hexane in meal to dryer	250	ppm		
Hexane in meal from dryer	180	ppm		

Maximum hexane emissions	=	(crush ton/hr)*(2000 lb/ton)*(% weight)*(ppm drop/1,000,000)	
	=	11.8	lb/hr
	=	crush ton/year x (% weight) x (ppm drop/1,000,000)	
	=	48.0	ton/yr
Hexane emissions during normal operation	=	Emission rate/processing rate	
	=	(loss lb/hr)/(crush ton/hr)	
	=	0.102	lb/ton crush

B. Upset conditions

Hexane in meal to dryer	2,000	ppm
Hexane in meal from dryer	1,440	ppm
Post dryer flake concentration:	1440	ppm hexane

Maximum hexane emissions	=	(crush ton/hr)*(2000 lb/ton)*(% weight)*(ppm drop) ppm	
	=	94.0	lb/hr
	=	(crush ton/yr)*2000 lb/ton / 8760 *(% weight)*(ppm drop) ppm*(60 hour/year)/(2000 lb/ton)	
	=	2.6	ton/yr
Hexane emissions during upset conditions	=	Emission rate/processing rate	
	=	(loss ton/yr)*(2000 lb/tn)/(crush ton/yr)	
	=	0.006	lb/ton crush
Total hexane emissions	=	Emissions during normal operation + upset conditions	
	=	50.7	ton/year
Hexane emissions from Dryer 1	=	(loss ton/year)*(2000 lb/ton)/(ton crush/yr)	
	=	0.108	lb/ton crush

Area 5 - Dryer Two flake desolventizing P11

A. Normal operating conditions

			1999 compliance tests	
Flakes in beans	73	% weight	1.58	lb/hour
Hexane in meal to dryer	180	ppm		
Hexane in meal from dryer	150	ppm		

Maximum hexane emissions	=	(crush ton/hr)*(2000 lb/ton)*(% weight)*(ppm drop/1,000,000)	
	=	5.0	lb/hr
	=	(crush ton/year)*(0.73)*(ppm drop)/1,000,000	
	=	20.6	ton/yr

Hexane emissions during normal operation	=	Emission rate/processing rate	
	=	(loss lb/hr)/(crush ton/hr)	
	=	0.044	lb/ton crush

B. Upset conditions

Hexane in meal to dryer	1,440	ppm	
Hexane in meal from dryer	1,200	ppm	
Post dryer flake concentration: is 1305		1200	ppm hexane

Maximum hexane emissions	=	(crush ton/hr)*(2000 lb/ton)*(% weight)*(ppm drop)	
	=	40.3	lb/hr
	=	(crush ton/yr)*2000 lb/ton / 8760 *(% weight)*(ppm drop) ppm*(60 hour/year)/(2000 lb/ton)	
	=	1.1	ton/yr
Hexane emissions during upset conditions	=	Emission rate/processing rate	
	=	(los ton/yr)*(2000 lb/tn)/(crush ton/yr)	
	=	0.002	lb/ton crush
Total hexane emissions	=	Emissions during normal operation + upset conditions	
	=	21.7	ton/year
Hexane emissions from Dryer 2	=	(loss ton/year)*(2000 lb/ton)/(ton crush/yr)	
	=	0.046	lb/ton crush
Total dryer hexane emissions	=	Emissions during normal operation + upset conditions	
	=	72.4	ton/year
Total dryer hexane emissions	=	(loss ton/year)*(2000lb/ton)/(crush ton/year)	
	=	0.154	lb/ton crush

Requested:			
State allowable hexane emissions from the meal dryer for the purposes of permitting	=	0.30	gallons hexane /ton of soybeans crushed.

Emission limit basis: BACT analysis
solvent loss rate
reduced by ratio
of new process

Area 6 - Cooler flake desolventizing P12

A. Normal operating conditions

Flakes in beans	73	% weight	1998 compliance tests
Hexane in meal to cooler	150	ppm	1.05 lb/hour
Hexane in meal from cooler	130	ppm	

Maximum hexane emissions	=	(crush ton/hr)*(2000 lb/ton)*(% weight)*(ppm drop/1,000,000)	
	=	3.4	lb/hr
	=	(crush ton/year)*(% weight)*(ppm drop/1,000,000)	
	=	13.7	ton/yr
Hexane emissions during normal operation	=	Emission rate/processing rate	
	=	(loss lb/hr)/(crush ton/hr)	
	=	0.029	lb/ton crush

B. Upset conditions

Hexane in meal to cooler	930	ppm	
Hexane in meal from cooler	806	ppm	
Post dryer flake concentration: is 930 x	806	ppm hexane	

Maximum hexane emissions	=	(crush ton/hr)*(2000 lb/ton)*(% weight)*(drop in ppm)	
	=	20.8	lb/hr
	=	(crush ton/yr)*2000 lb/ton / 8760 *(% weight)*(ppm drop) ppm*(60 hour/year)/(2000 lb/ton)	
	=	0.6	ton/yr
Hexane emissions during upset conditions	=	Emission rate/processing rate	
	=	(loss ton/yr)*(2000 lb/tn)/(crush ton/yr)	
	=	0.001	lb/ton crush
Total hexane emissions	=	Emissions during normal operation + upset conditions	
	=	14.3	ton/year
Hexane emissions from cooler	=	(loss ton/year)*(2000 lb/ton)/(ton crush/yr)	
	=	0.030	lb/ton crush
Requested: State allowable hexane emissions from the meal cooler for the purposes of permitting	=	0.051	pounds hexane /ton of soybeans crushed.

Emission limit basis: BACT analysis
solvent loss rate
reduced by ratio
of new process

Area 7 - Hexane Remaining in meal (flakes)

A. Normal operating conditions

Flakes in beans	73	% weight
Hexane in meal	130	ppm

Maximum hexane in meal	=	(ton/hr)*(2000 lb/ton)*(% weight)*(ppm)/(1,000,000}	
	=	21.8	lb/hr
	=	(crush ton/year)*(% weight)*(ppm/1,000,000)	
	=	89.2	ton/yr
Hexane in meal during normal operation	=	Content/processing rate	
	=	(loss lb/hr)/(crush ton/hr)	
	=	0.190	lb/ton crush

B. Upset conditions

Hexane in meal to cooler	806	ppm	

Maximum hexane in meal	=	(ton/hr)*(2000 lb/ton)*(% weight)*(ppm)	
	=	135.3	lb/hr
	=	(loss lb/hr)*(60 hour/year)/(2000 lb/ton)	
	=	4.06	ton/yr
Hexane in meal during upset conditions	=	Emission rate/processing rate	
	=	(loss ton/yr)*(2000 lb/tn)/(crush ton/yr)	
	=	0.009	lb/ton crush
Total hexane in meal	=	Hexane in meal during normal operation + upset conditions	
	=	93.3	ton/year
Hexane in meal	=	(total hexane ton/year)*(2000 lb/ton)/(ton crush/yr)	
	=	0.198	lb/ton crush

Area 8 - Start-up/Shutdowns

Start-up/Shutdown Conditions (Fugitive losses)

Startup solvent loss	11,200	lbs	or	2,000	gal
Shutdown solvent loss	11,200	lbs	or	2,000	gal
Hexane density	5.6	lb/gal			
Total loss for 1 startup/shutdown	22,400	lbs	or	4,000	gal
Duration of startup	2	hrs			
Duration of shutdown	2	hrs			
Duration for 1 startup/shutdown	4	hrs			
Frequency of startup/shutdown	4	times/year			
Total duration	16	hrs/year			

Maximum hexane emissions = (22,400 lb/occ.)/(4 hr/occ.)
= 5,600 lbs/hr

Total Hexane emissions = (loss lb/hr)*(hr/yr)/(2000 lb/ton)
= 44.8 ton/year

Hexane emissions = (loss ton/year)*(2000 lb/ton)/(ton crush/year)
= 0.095 lb/ton crush

Area 9 - Plant Upsets

Upset conditions (Fugitive losses)

When the process system is under pressure assume hexane loss to the atmosphere
is equal to the volume of air normally pulled into the system.

Duration	4	hrs
Frequency	15	times/year
Total duration	60	hrs/year

Flow of air in the flakes = (crush ton/yr / 8760)*(% weight/100)*(2000 lb/ton)*(1 hour/60 min)*(1 cf/60 lb)
= 43.5 cfm

The volume of hexane lost will be equal to the air drawn into the system during normal operations.

Hexane loss = 50 ft^3/min - 43.5 ft^3/min
= 6.5 cfm

Maximum hexane emissions = (cfm)*(60 min/hr)*(1 lb/15 cf)*(4 hour/occ)*(15 occ/yr)*(1 ton/2000 lb)
= 0.78 ton/yr

Hexane emissions due to upsets = (loss ton/year)*(2000 lb/ton)/(ton crush/yr)
= 0.002 lb/ton crush

Area 10 - General Leaks and Equipment Failures (fugitive emissions)

Various potential sources of leaks exist throughout the plant.

Annual leak average	0.5	lb/ton crush (by experience)
It occurs throughout the year.		
No identifiable conditions.		

Average hexane emissions	=	(0.5 lb/ton)*(crush ton/hr)	
	=	57.5	lb/hr
Annual total hexane emissions	=	(0.5 lb/ton)*(crush ton/yr)/(2000 lb/ton)	
	=	235.1	ton/yr

Area 11 - Sampling (fugitive losses)

A small amount of hexane is lost with sampling and unloading of purchased hexane.

Sampling frequency	24	samples/day (during normal operation)
Sample volume	0.1	gallon
Sample content	90	% hexane

Hexane emissions	=	(24 samples/day)*(365 day/year)*(0.1 gal/sample)*(5.6 lb/gal)* (90%/100)*(1 ton/2000 lb)	
	=	2.2	ton/yr
Annual total hexane emissions	=	(loss ton/year)*(2000 lb/ton)/(ton crush/yr)	
	=	0.005	lb/ton crush

Area 12 - Hexane vapors remaining in delivery truck after unloading

Hexane loss	=	(Amount of truck volume emptied)*(lb hexane/lb vapor)* (density of vapor)	
	=	(loss tn/yr)*(2000 lb/tn)*(gal/5.6 lb)*(1 cf/7.48 gal)*(1 lb/15 cf air)* (0.54 lb hexane/0.43 lb air vapor)*(1 ton/2000 lb)	
	=	0.99	ton/yr
Annual total hexane emissions	=	(loss ton/year)*(2000 lb/ton)/(940,240 ton crush/yr)	
	=	0.002	lb/ton crush

Area 13 - Hexane vented from storage tank

Hexane storage is always vented to the mineral absorption system.
Therefore, no tank venting of breathing or working losses to the atmosphere occur.

Hexane loss	=	0.0	ton/yr
	=	0.0	lb/ton crush

Hexane Loss Breakdown (ton/year)

Type of Disappearance **Air Emissions-Point Sources**	Disappearance Normal Operations (ton/year)	Disappearance Upset Conditions (ton/year)	Disappearance Normal +Upset (ton/year)
Vent system (mineral oil absorber)	15.8	0.2	16.0
Desolventized meal dryer 1	48.0	2.6	50.7
Desolventized meal dryer 2	20.6	1.1	21.7
Desolventized meal cooler	13.7	0.6	14.3
Subtotal	98.1	4.6	102.7
Air Emissions-Fugitive			
Start-ups / shutdowns		44.8	44.8
Plant upsets		0.8	0.8
Sampling/hexane unloading	3.2		3.2
General	235.1		235.1
Subtotal	238.3	45.6	283.8
Products & byproducts			
Oil	16.9		16.9
Meal	89.2	4.06	93.3
Waste water	0.0		0.0
Subtotal	106.2	4.1	110.2
Total	442.5	54.2	496.8

Hexane Loss Breakdown (lb/ton)

Type of Disappearance	Disappearance Normal Operations (lb/ton)	Disappearance Upset Conditions (lb/ton)	Disappearance Normal +Upset (lb/ton)
Air Emissions-Point Sources			
Vent system (mineral oil absorber)	0.03	0.0005	0.03
Desolventized meal dryer 1	0.10	0.006	0.11
Desolventized meal dryer 2	0.04	0.002	0.05
Desolventized meal cooler	0.03	0.001	0.03
Subtotal	0.21	0.01	0.22
Air Emissions-Fugitive			
Start-ups / shutdowns		0.10	0.1
Plant upsets		0.002	0.002
Sampling/hexane unloading	0.01		0.01
General	0.5		0.5
Subtotal	0.51	0.10	0.60
Products & byproducts			
Oil	0.04		0.04
Meal	0.19	0.01	0.20
Waste water	0.00		0.00
Subtotal	0.23	0.01	0.23
Total	0.94	0.12	1.05

POINT SOURCE SUMMARY TABLE **CGB, Mt Vernon, Indiana**

Source name	Source #	PM Potential (Tons/Yr)	PM Controlled (Tons/Yr)	PM10 Potential (Tons/Yr)	PM10 Controlled (Tons/Yr)
TRUCK RECEIVING	1	80.4	2.4	26.4	2.4
RAIL/H.B. TRUCK RECEIVING	2	16.5	6.6	3.7	1.5
NORTH TRUCK RECEIVING	24	9.7	1.9	3.2	1.9
BARGE GRAIN RECEIVING	16	9.4	3.0	2.3	3.0
ANNEX SILO LOADING	2A	14.1	1.4	7.1	0.7
MERCHANDIZING SILO LOADING	26	2.1	0.6	1.1	0.3
NORTH HOUSE BIN LOADING	27	1.6	0.5	0.8	0.2
NORTH STORAGE LOADOUT	25	4.6	0.5	1.6	0.2
SOYBEAN CLEANING	4	35.3	3.57	35.3	3.57
SOYBEAN HEATER	21	0.53	0.0	0.53	0.0
SOYBEANCRACKING/DEHULLING	5	1,692	54.3	1,168	37.5
SOYBEAN EXPANDER	23	109.5	10.95	109.5	10.95
SOYBEAN FLAKING	19	158.6	1.69	97.4	1.69
MINERAL OIL ABSORBER	13	0.0	0.0	0.0	0.0
DTDC MEAL DRYING	10 & 11	1,228	51.7	1,228	51.7
DTDC MEAL COOLING	12	648	4.4	648	4.4
MEAL SIZING	9	1,160	1.13	709	1.13
KAOLIN HANDLING	3	2.4	0.006	2.4	0.006
HULL GRINDING	6	65.8	0.14	39.5	0.14
HULL STORAGE LOADING	7	1.3	0.75	0.7	0.75
HULL STORAGE UNLOADING	7	1.0	0.75	0.5	0.75
HULL PELLET COOLING	8	65.7	22.5	32.9	22.5
HULL PELLET STORAGE	8	2.0	0.75	1.0	0.75
MEAL STORAGE & LOADOUT BINS	20	20.6	1.13	3.0	1.13
TRUCK MEAL LOADOUT	14	92.5	3.0	13.7	3.0
BARGE/RAIL MEAL LOADOUT	15	0.0	3.0	0.0	3.0
BOILER 1	17	1.1	1.1	1.1	1.1
BOILER 2	18	1.1	1.1	1.1	1.1
BOILER 3	18A	1.1	1.1	1.1	1.1
TOTAL Source Emissions:		5,424.9	180.0	4,138.0	156.5

FUGITIVE EMISSIONS SUMMARY TABLE

Source name (Fugitive Emissions)	PM (Tons/Yr)	PM10 (Tons/Yr)
TRUCK/RAIL RECEIVING	11.3	3.0
NORTH STORAGE LOADOUT	0.5	0.2
BARGE GRAIN RECEIVING	0.5	0.1
EXTRACTION STARTUP/SHUTDOWN	0.0	0.0
EXTRACTION UPSETS	0.0	0.0
EXTRACTION SAMPLING/HEXANE UNLOAD	0.0	0.0
EXTRACTION GENERAL LOSSES	0.0	0.0

VEHICLE TRAFFIC	0.57	0.11
TOTAL Fugitive Emissions:	12.8	3.4

Note: Remove fugitive emissions for Rail/H.B. Truck Receiving and North Storage Loadout when calculating annual emissions are included in point source totals listed above.

SOLVENT INVENTORY LOSS	VOC's	HAP*
Products & Byproducts	(Tons/Yr)	(Tons/Yr)
Oil	16.9	11.0
Meal	93.3	60.5
Waste Water	0.0	0.0
Products & Byproducts	110.2	71.5

* Based on the certificate of analysis submitted by Bob Henricks on 10/31/00 as part of the Title V permit applicatio

04/13/2000

NOx (Tons/Yr)	SOx (Tons/Yr)	CO (Tons/Yr)	HAP* (Tons/Yr)	VOC (Tons/Yr)
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	10.4	16.0
0.00	0.00	0.00	47.0	72.4
0.00	0.00	0.00	9.3	14.3
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
14.7	0.09	12.4	0.00	0.81
14.7	0.09	12.4	0.00	0.81
14.7	0.09	12.4	0.00	0.81
44.2	0.27	37.2	66.6	105.1

VOC's (Tons/Yr)	HAP* (Tons/Yr)
0.00	0.00
0.00	0.00
0.00	0.00
44.8	29.06
0.8	0.50
3.2	2.07
235.1	152.46

0.00	0.00
283.8	184.1

emission inventory (STEPs). Fugitive

n, normal hexane, which is a HAP, constitutes 64.86% of the hexane used at CG&B. The rest of the components of th

ıe hexane are non-HAP.

Fugitive PM Emissions Estimate for Paved Roads 13-Apr-2000
SCC: 30501039

Distance Traveled on Paved and Unpaved Roads per One-Round Trip

		Paved (miles)		Unpaved (miles)		Total (miles)	
Full (40 tons)		0.142		0		0.142	
Empty (10 tons)		0.142		0		0.142	
Total (miles)		0.284		0		0.284	

Information for the emission calculations are based on AP-42 Section 13.2.1 Paved Roads.

E = k [sL/2] 0.65 [W/3]1.5 Equation (1) from 13.2.1, AP-42

where: E = emissions (pounds(lbs)/vehicle mile traveled (VMT))
k = particle size multiplier (pounds per vehicle mile traveled)
sL = road surface silt loading (grams per square meter)
W = average weight (tons) of the vehicles traveling the road

k =	0.082	particle size multiplier (most conservative case, pg 13.2.1-3, AP-42)
sL =	0.08	g/m2 (silt loading for Kings Highway, St. Louis, MO, a midwest collector road, Table 13.2.1-3, AP-42)
W =	23.5	(tons) mean weight (based on distance traveled full and empty)

Therefore,

E = 0.22 lbs/VMT (pounds per vehicle mile traveled)

Calculation of vehicle miles traveled (VMT)

Distance of one one-way trip	0.142	miles	250 yards
Annual receipts	1,081,276	tons	(tons crush + tons from merchandize)
Net weight	60,000	pounds	
	1,000	bushels	
Max. number of one-way trips	7.08	one-way trips/hr	
Hours per year	5,088	hours/year	

VMT = Distance of one-way trip x Number of one-way trips per hour x hours per year

VMT = 5,120 miles per year

Potential fugitive PM emissions per year = E x VMT

=	**1,136**	**pounds per year**
=	**0.57**	**tons per year**
=	**0.22**	**lbs per hour**

Fugitive PM10 Emissions Estimate for Paved Roads

Distance Traveled on Paved and Unpaved Roads per One-Round Trip

		Paved (miles)		Unpaved (miles)		Total (miles)	
Full (40 tons)		0.142		0.000		0.142	
Empty (10 tons)		0.284		0.000		0.142	
Total (miles)		0.284		0.000		0.284	

Information for the emission calculations are based on AP-42 Section 13.2.1 Paved Roads.

E = k [sL/2] 0.65 [W/3]1.5 Equation (1) from 13.2.1, AP-42

where: E = emissions (pounds(lbs)/vehicle mile traveled (VMT))
k = particle size multiplier (pounds per vehicle mile traveled)
sL = road surface silt loading (grams per square meter)
W = average weight (tons) of the vehicles traveling the road

k =	0.016	particle size multiplier (PM-10, pg 13.2.1-3, AP-42)
sL =	0.08	g/m2 (silt loading for Kings Highway, St. Louis, MO, a midwest collector road, Table 13.2.1-3, AP-42)
W =	23.5	(tons) mean weight (based on distance traveled full and empty)

Therefore,

E = 0.04 lbs/VMT (pounds per vehicle mile traveled)

Calculation of vehicle miles traveled (VMT)

Distance of one one-way trip	0.142	miles
Max. number of one-way trips	7.08	one-way trips per hour
Hours per year	5,088	hours/year

VMT = Distance of one-way trip x Number of one-way trips per hour x hours per year

VMT = 5,120 miles per year

Potential fugitive PM10 emissions per year = E x VMT

=	**222**	**pounds per year**
=	**0.11**	**tons per year**
=	**0.04**	**lbs per hour**